1.800.ACS.2345
www.cancer.org

Hope.Progress.Answers.

New Jersey Cancer Facts & Figures 2002

A lifeguard's rowboat rests on a Cape May beach.

American Cancer Society®

NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES

Table of Contents

Introduction

Dear Reader:

We are very pleased to present the first-ever *New Jersey Cancer Facts & Figures 2002,* a collaborative project of the American Cancer Society and the New Jersey Department of Health and Senior Services. This document is intended primarily for consumers but will also be of interest to advocates, news organizations and policy-makers who seek detailed, easy-to-read information about the burden of cancer in New Jersey.

The American Cancer Society, Eastern Division, and the New Jersey Department of Health and Senior Services are committed to seeking reductions in cancer incidence and mortality. Providing accurate, unbiased information about cancer is a critical responsibility. We are therefore pleased that *New Jersey Cancer Facts & Figures* affirms the spirit of collaboration between our two agencies and raises the bar for available information resources.

Three decades after President Nixon declared war on cancer, we have seen major gains in the fight against this disease. In fact, in the early 1990s, we began to see overall declines in cancer mortality rates. These gains are clearly attributable to improvements in preventative measures, such as reductions in tobacco consumption, early detection and improved treatment. Through efforts such as *New Jersey Cancer Facts & Figures,* we seek to enhance our record of cooperation, so that we may continue to align resources, expertise and capacity to save lives.

New Jersey is the nation's most densely populated state—home to 8.5 million people from diverse backgrounds. But as great as our challenges may be, so too is our commitment to change—we seek to develop breakthrough strategies to reach those communities needing us most.

This document, *New Jersey Cancer Facts & Figures 2002,* was created by public health officials and planners and is primarily intended to serve the public. In the months following publication of this document, we will be eager to hear your feedback, so that subsequent editions may prove even more comprehensive and useful.

Sincerely,

Donald Distasio
Chief Executive Officer
American Cancer Society, Eastern Division

Clifton R. Lacy, M.D.
Commissioner
New Jersey Department of Health and Senior Services

Preface

New Jersey Cancer Facts & Figures 2002 is designed to provide health information about cancer. Cancer is the second leading cause of death in the state, and is responsible for nearly one of every four deaths for all age groups. Cancer is the number one cause of death for New Jersey residents ages 35 to 64, representing nearly 34 percent of the total annual deaths for this age group.[1]

This publication is a collaborative effort of the American Cancer Society, Eastern Division and the New Jersey Department of Health and Senior Services, and is consistent with the mission of the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey. Our purpose is to provide an overview of the burden of cancer in New Jersey and guide recommendations for prevention, early detection and quality of life.

The American Cancer Society is dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives and diminishing suffering from cancer through research, education, advocacy and service. The mission of the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey is to develop, recommend, advocate and promote an integrated, collaborative and multi-disciplinary approach to reducing incidence, illness and death from cancer.

Both organizations recognize that cancer control programs should be monitored to ensure progress in prevention and early detection, leading to future declines in incidence and mortality. Together, we are committed to saving more lives.

State Overview

With a population of nearly 8.5 million—1,100 persons per square mile—New Jersey is the most densely populated state in the nation. The Garden State is home to agriculture, business and manufacturing. From Jersey City to Cape May, the state's historic landmarks, arts centers, shore retreats and farmlands make the landscape as diverse as the residents themselves.

According to the 2000 U.S. Census, 73 percent of the population in New Jersey identify themselves as white, 14 percent black, 13 percent Hispanic and 6 percent Asian/Pacific Islander. About 2.5 percent of the population report two or more races. Approximately 63 percent of adults in New Jersey are high school graduates; 25 percent are college graduates. Although the median annual income is nearly $48,000, compared with a U.S. median of $37,000, about 9.3 percent live below the poverty level and 12.9 percent live without any form of health insurance coverage.

Cancer: Basic Facts

What Is Cancer?

Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. It is believed that cancer is caused by both external factors (tobacco, chemicals, radiation and infectious organisms) and internal factors (inherited mutations, hormones, immune conditions and mutations that occur from metabolism). Causal factors may act together or in sequence to initiate or promote carcinogenesis. Ten or more years often pass between exposures or mutations and detectable cancer. Cancer is treated by surgery, radiation, chemotherapy, hormones and immunotherapy.

Can Cancer Be Prevented?

The risk of developing most types of cancer can be reduced by changes in a person's lifestyle, such as quitting smoking or improving nutrition. Tobacco use is responsible for nearly one in five deaths in the United States. In addition to being responsible for 87 percent of lung cancer deaths, smoking is also associated with cancers of the mouth, pharynx, larynx, esophagus, pancreas, uterine/cervix, kidney and bladder.[2] Scientific evidence suggests that up to one-third of all the cancer deaths expected in the U.S. in 2002 are related to nutrition, physical inactivity and other lifestyle factors. In New Jersey, this would account for over 5,900 cancer deaths this year.[3]

Some cancers are related to infectious exposures (i.e., Hepatitis B, HPV, HIV, Helicobacter and others) and could be prevented through behavioral changes, vaccines or antibiotics. In addition, many of the 1,800 melanomas of the skin that are expected to be diagnosed this year in New Jersey could have been prevented by protection from the sun's rays.

Cancers that can be detected by screening account for about half of all new cancers. Regular screening examinations by a health care professional can result in the detection of many cancers at earlier stages, when treatment is more likely to be successful. Self-examinations for cancers of the breast and skin may also result in detection of tumors at earlier stages. Cancer strikes men, women and children of all ages and races. If all of these cancers were diagnosed at an early stage, it is estimated that the five year survival rate would increase by 13 percent.

What Are The Costs Of Cancer?

The National Institutes of Health estimated overall costs for cancer in the U.S. in 2001 at $156.7 billion: $56.4 billion for direct medical costs (total of all health expenditures); $15.6 billion for indirect morbidity costs (cost of lost productivity due to illness); and $84.7 billion for indirect mortality costs (cost of lost productivity due to premature death).[3] At an average per capita cost of $560 per U.S. citizen, the overall cost in New Jersey is estimated to be nearly $4.7 billion annually.

Tobacco costs to our society are best measured by the number of people who die or suffer illness each year because of its use. Annual medical costs of smoking-related issues constitute 6 to 12 percent of American personal health expenses.[4]

Who Is At Risk Of Developing Cancer?

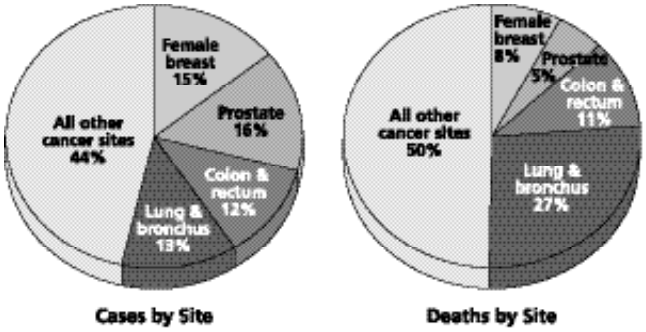
Cancer may occur at any age, although there is an increased risk with age. Most cancers affect adults beginning in middle age. About 77 percent of all cancers are diagnosed at ages 55 and older.

All cancers involve the malfunction of genes that control cell growth and division. About 5 percent to 10 percent of cancers are hereditary, in which case an inherited gene predisposes the person to a very high risk of particular cancers. The remainder of cancers result from damage to genes that occurs throughout an individual's lifetime, either due to internal factors, such as hormones or the digestion of nutrients within cells, or external factors, such as tobacco, chemicals and sunlight.

How Is Cancer Staged?

Staging is the process of describing the extent or spread of the disease from the site of origin. Staging is essential in determining the choice of therapy and assessing prognosis. A cancer's stage is based on the primary tumor's size and location in the body and whether it has spread to other areas of the body. A number of different staging systems are used to classify tumors. Summary staging (in situ, local, regional and distant) is useful for descriptive and statistical analysis of tumor registry data. If cancer cells are present only in the layer of cells where they developed and they have not spread, the stage is in situ. If cancer cells have spread beyond the original layer of tissue, the cancer is invasive.

Figure 1: Percent of Cancer Cases and Deaths by Site, New Jersey, 1999



Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

What Does Cancer Staging Mean?

Local: An invasive malignant cancer confined entirely to the organ of origin.

Regional: A malignant cancer that 1) has extended beyond the limits of the organ of origin directly into surrounding organs or tissues; 2) involves regional lymph nodes by way of lymphatic system; or 3) has both regional extension and involvement of regional lymph nodes.

Distant: A malignant cancer that has spread to parts of the body remote from the primary tumor either by direct extension or by discontinuous metastasis to distant organs, tissues or via the lymphatic system to distant lymph nodes.

Table 1: Cancer Incidence and Mortality Rates* and Counts, New Jersey, 1999

Incidence

Male	Rate	Count	Rate	Count	Female
All Sites	**612.7**	**22,243**	**453.5**	**21,502**	**All Sites**
Prostate	189.1	6,933	141.0	6,512	Breast
Lung & bronchus	87.0	3,154	55.7	2,700	Lung & bronchus
Colon & rectum	78.3	2,767	52.9	2,645	Colon & rectum
Urinary bladder	46.6	1,648	30.1	1,391	Uterine (corpus uterus; uterus NOS)
Non-Hodgkin's lymphomas	25.3	929	17.9	863	Non-Hodgkin's lymphomas
Melanomas of the skin	19.2	713	18.2	835	Ovary
Kidney & renal pelvis	18.3	678	11.2	563	Pancreas
Leukemias	15.4	549	11.2	561	Urinary bladder
Oral cavity & pharynx	14.5	540	11.5	531	Melanomas of the skin
Stomach	15.2	537	11.0	478	Thyroid

Mortality

Male	Rate	Count	Rate	Count	Female
All Sites	**249.8**	**8,862**	**177.4**	**8,920**	**All Sites**
Lung & bronchus	73.1	2,654	41.7	2,074	Lung & bronchus
Colon & rectum	26.7	934	27.5	1,347	Breast
Prostate	28.5	930	19.3	1,008	Colon & rectum
Pancreas	13.3	471	9.9	512	Pancreas
Non-Hodgkin's lymphomas	10.4	370	9.2	452	Ovary
Leukemias	9.8	339	6.8	351	Non-Hodgkin's lymphomas
Urinary bladder	9.5	322	5.5	278	Leukemias
Stomach	8.2	291	4.3	222	Stomach
Esophagus	7.6	282	4.4	222	Uterine (corpus uterus; uterus NOS)
Liver	5.9	217	4.1	195	Brain

* Rates are per 100,000 persons, age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics
Excludes basal and squamous cell skin cancers and in situ cancer except urinary bladder

New Jersey Cancer Facts

Most Common Cancers in New Jersey

Four cancer sites account for more than half of New Jersey's cancer burden (Table 1). Lung and bronchus, colon and rectum, breast, and prostate cancers represent 56 percent of cancer diagnosed among New Jersey residents in 1999 (Figure 1). These four cancer sites also accounted for 50 percent of all New Jersey resident cancer deaths in 1999. The leading sites of new cancers and deaths in New Jersey are noted in Figure 2.

New Jersey Estimates

How Many New Cancer Cases Are Expected To Occur This Year?

Approximately 41,100 individuals are expected to be diagnosed in New Jersey in 2002; 113 new diagnoses each day (Table 2). In an average week, more than 900 residents of New Jersey are diagnosed with cancer.

How Many People Are Expected To Die Of Cancer This Year?

In 2002, about 17,800 New Jersey residents are expected to die of cancer; nearly 50 people a day (Table 2). Cancer is the second leading cause of death in New Jersey, exceeded only by heart disease. In an average week, more than 340 of the state's residents die from cancer.

Figure 2: Leading Sites of New Cancer Cases and Deaths, New Jersey, 1999

Cancer Cases by Site and Gender		Cancer Deaths by Site and Gender	
Male	**Female**	**Male**	**Female**
Prostate 31%	Breast 30%	Lung & bronchus 30%	Lung & bronchus 23%
Lung & bronchus 14%	Lung & bronchus 13%	Colon & rectum 11%	Breast 15%
Colon & rectum 12%	Colon & rectum 12%	Prostate 10%	Colon & rectum 11%
Urinary bladder 7%	Corpus uterus & uterus NOS 7%	Pancreas 5%	Pancreas 6%
Non-Hodgkin's lymphomas 4%	Non-Hodgkins lymphomas 4%	Non-Hodgkin's lymphoma 4%	Ovary 5%
Melanoma of the skin 3%	Ovary 4%	Leukemias 4%	Non-Hodgkin's lymphoma 4%
Kidney & renal pelvis 3%	Pancreas 3%	Urinary bladder 4%	Leukemias 3%
Oral cavity & pharynx 2%	Urinary bladder 3%	Stomach 3%	Corpus uterus & uterus NOS 2%
Stomach 2%	Melanoma of the skin 2%	Esophagus 3%	Stomach 2%
Leukemias 2%	Thyroid 2%	Liver / Intrahepatic bile duct 2%	Brain & other nervous system 2%
All Sites 22,243 cases (100%)	**All Sites** 21,502 cases (100%)	**All Sites** 8,862 deaths (100%)	**All Sites** 8,920 deaths (100%)

Excludes basal and squamous cell skin cancers and in situ cancer except urinary bladder
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Table 2: Estimated New Cancer Cases* and Deaths, New Jersey, 2002 (Top Ten)

Cases		Deaths	
Site	**New Cases**	**Site**	**Deaths**
All Sites	41,100	All Sites	17,800
Breast (female only)	6,900	Lung & bronchus	4,500
Prostate	5,700	Colon & rectum	1,900
Colon & rectum	4,900	Breast (female only)	1,400
Lung & bronchus	4,900	Pancreas	1,000
Urinary bladder	2,100	Prostate	900
Non-Hodgkin's lymphoma	1,900	Non-Hodgkin's lymphoma	800
Melanoma of the skin	1,800	Leukemia	800
Corpus uterus & uterus NOS	1,600	Ovary	500
Leukemia	1,100	Liver	500
Cervical	400	Brain/nervous system	400

*Excludes basal and squamous cell skin cancers and in situ cancer except urinary bladder
Source: American Cancer Society, 2002

Frequently Asked Questions

Where Do Reports Of Cancer Cases Come From?

Each time a person is diagnosed with cancer, the hospital(s) where that person is diagnosed and/or treated reports information to the Cancer Registry, as required by law. The information required by the Cancer Registry is abstracted from each patient's medical record. Data about patients with cancer are also collected from radiation treatment centers, pathology laboratories, managed care organizations, death certificates and cancer registries in other states. New Jersey residents who are diagnosed and/or treated in other states are also reported through reciprocal reporting agreements. It takes almost two years for all this information to be reported to the Cancer Registry and processed.

What Does The Cancer Registry Do To Protect Privacy?

All information reported to the Cancer Registry is considered confidential. Procedures are in place to protect patients' privacy. Access to the registry offices is restricted. All employees are trained in handling confidential information. Strict policies are in place regarding the release of data to outside investigators. Only aggregate data are used in any reports. Statistics for small geographic areas are only released when there are enough cases in the area to guard against revealing confidential information about an individual.

What Is Age Adjustment?

One way of examining the pattern of health outcomes in communities of different sizes is to calculate an incidence or mortality rate, which is the number of new cases or deaths divided by the size of the population. In chronic diseases and injuries, rates are usually expressed in terms of the number of cases/deaths per 100,000 people per year. Epidemiologists use a statistical method called "age-adjustment" to compare groups of people with different age compositions. Almost all diseases or health outcomes occur at different rates in different age groups. Most chronic diseases, including most cancers, occur more often among older people. Other outcomes, such as many types of injuries, occur more often among younger people. The age distribution determines what the most common health problems in a community will be. Age

adjustment allows comparison among areas regardless of their respective age distribution. Using the 2000 U.S. standard population in age adjustment allows age-adjusted rates to be closer to the actual, unadjusted rate in the population, compared to using the 1940 or 1970 U.S. standard population. On average, Americans are living longer and reaching the age where cancer and other chronic diseases become more common.

What Is A Clinical Trial?

In cancer research, a clinical trial is a study conducted to evaluate new treatment or prevention methods. Each study is designed to answer scientific questions and to find new and safer ways to treat cancer patients. The search for good cancer treatment begins with basic research in laboratory and animal studies and, if successful, leads to research with patients.

Why Are Clinical Trials Important?

Advances in medicine and science result from new ideas and approaches developed through research. New treatments are carefully studied first in the laboratory. Patients participating in clinical trials provide valuable information concerning the safety and efficacy of new treatments or preventive strategies. If proven to be safe and effective, they are then made available to all patients.

How Can I Find Out About Clinical Trials?

Most cancer clinical trials are funded by the National Cancer Institute through cancer centers or cooperative networks made up of research institutions, university and community hospitals and clinics associated with them.

Information about specific trials can be obtained by calling the American Cancer Society at 1.800.ACS.2345 or the National Cancer Institute's Cancer Information Service at 1.800.4.CANCER. Both organizations can also be reached through their websites at www.cancer.org or http://cancertrials.nci.nih.gov.

Cancer Risks

Smoking, diet, infectious diseases, chemicals and radiation cause an estimated three-quarters of all cancer deaths in the United States. Environmental factors such as tobacco use, unhealthy diet and physical inactivity have a much greater effect on individual cancer risks than do trace levels of pollutants in food, drinking water and air.

Smoking is the most preventable cause of death in our society. Tobacco use is responsible for nearly one in five deaths in the United States.[3] Thirty percent of all cancer deaths can be attributed to tobacco. Tobacco-related cancer risks include tobacco use and exposure to secondhand smoke. Secondhand smoke, or environmental tobacco smoke (ETS), contains numerous human carcinogens for which there is no safe level of exposure. Approximately half of all continuing smokers die from diseases caused by smoking, most are middle age (35-69) and lose an average of 20 to 25 years of life expectancy.[3] Current information about the prevalence of this risk behavior is included in the section about lung and bronchus cancer.

For the majority of Americans who do not use tobacco products, dietary choices and physical activity are the most important modifiable determinants of cancer risk.[5] Nutritional factors account for about one-third of U.S. cancer deaths.[6,7] To provide the public with current cancer prevention information, the American Cancer Society periodically reviews, updates and publishes recommendations about nutrition and physical activity. The most recent American Cancer Society recommendations also suggest community action to support behavioral change.[8]

Nutrition, Physical Activity and Obesity

Nutrition Among Adults

Education about the importance of diet and physical activity for health can motivate schools, worksites and other community organizations to consider these factors in health promotion planning. While knowledge about nutrition and health is improving, Americans have been slow to adopt more healthful diets.[9] According to the National Cancer Institute's 5 A Day campaign, the percentage of people aware of the need to eat five or more fruits and vegetables a day increased more than three-fold from 1991 to 1997 (8 percent to 39 percent, respectively).[10]

American Cancer Society Recommendations for Nutrition and Physical Activity

1. Eat a variety of healthful foods, with an emphasis on plant sources.

- Eat five or more servings of a variety of vegetables and fruits each day.
- Choose whole grains in preference to processed (refined) grains and sugars.
- Limit your consumption of red meats, especially high-fat and processed meats.
- Choose foods that maintain a healthful weight.

2. Adopt a physically active lifestyle.

- Adults: engage in at least moderate activity for 30 minutes or more on 5 or more days of the week; 45 minutes or more of moderate to vigorous activity on 5 or more days per week may further enhance reductions in the risk of breast and colon cancer.
- Children and adolescents: engage in at least 60 minutes per day of moderate to vigorous physical activity at least 5 days per week.

3. Maintain a healthful weight throughout life.

- Balance caloric intake with physical activity.
- Lose weight if currently overweight or obese.

4. If you drink alcoholic beverages, limit consumption.

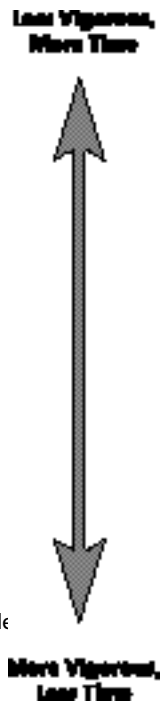
Recommendation for Community Action

Public, private and community organizations should work to create social and physical environments that support the adoption and maintenance of healthful nutrition and physical activity behaviors.

- Increase access to healthful foods in schools, worksites and communities.
- Provide safe, enjoyable and accessible environments for physical activity in schools and for transportation and recreation in communities.

Moderate Physical Activity Examples*

Washing and waxing a car for 45-60 minutes
Washing windows or floors for 45-60 minutes
Playing volleyball for 45 minutes
Playing touch football for 30-45 minutes
Gardening for 30-45 minutes
Wheeling self in wheelchair for 30-40 minutes
Walking 1¾ miles in 35 minutes
Basketball (shooting baskets) for 30 minutes
Bicycling for 5 miles in 30 minutes
Dancing fast (social) for 30 minutes
Pushing a stroller 1½ miles in 30 minutes
Raking leaves for 30 minutes
Walking 2 miles in 30 minutes (15 minutes per mile)
Water aerobics for 30 minutes
Swimming laps for 20 minutes
Wheelchair basketball for 20 minutes
Basketball (playing a game) for 15-20 minutes
Bicycling 4 miles in 15 minutes
Jumping rope for 15 minutes
Running 1½ miles in 15 minutes (10 minutes per mile
Shoveling snow for 15 minutes
Stairwalking for 15 minutes



To achieve the American Cancer Society physical activity guidelines, adults may choose to do a variety of activities. Some examples from the table above include:

1) Bicycle 5 miles in 30 minutes
2) Walk 2 miles in 30 minutes and run 1½ miles in 15 minutes
3) Garden for 30 minutes
4) Play volleyball for 45 minutes

*The amount of physical activity is influenced by its duration, intensity and frequency. The same amount of activity can be obtained in longer sessions of moderately intense activities (such as brisk walking) or in shorter sessions of more strenuous activities (such as running).

Source: American Cancer Society, 2002

Table 3: Physical Activity, Adults 18 and Older, New Jersey and U.S., 2000

	New Jersey	U.S.
No Leisure Time Physical Activity	28.7%	26.6%
Regular and Sustained Physical Activity*	21.4%	21.9%
Regular and Vigorous Physical Activity**	14.3%	14.1%

* At least 5 times per week, 30 minutes or more per session, regardless of intensity
**At least 3 times a week, 20 minutes or more session, 50% or more of capacity
Source: American Cancer Society, 2002

Over the last three decades, American diets have changed toward a pattern which includes more meals away from home. This recent shift, combined with greater consumption of processed, fast and snack foods makes it difficult for many Americans to meet the recommendations for healthy eating.

Data from the Behavioral Risk Factor Surveillance System (BRFSS) 2000 showed that fewer than one in four adults reported eating five or more servings of fruits and vegetables per day in more than half of the U.S. In New Jersey, 27.3 percent of the population reported eating the recommended number of servings, which was more than the national median of 23.2 percent. However, almost three-quarters of New Jersey residents do not follow the 5 A Day guidelines.

Healthy New Jersey 2010[1]

Objective

- Increase the percentage of persons aged 18 and over eating at least five daily servings of fruits and vegetables (including legumes) to 35.0 percent.

Physical Activity Among Adults

Recent evidence shows that physical activity is strongly associated with reducing the risk of developing colon and rectum cancer and breast cancer. More limited evidence suggests that physical activity may also decrease the risk for cancer of the pancreas, prostate, endometrium, ovary and testicles.[11] The American Cancer Society recommendations for physical activity are based on both the role of regular physical activity in maintaining a healthy body weight and on other cancer prevention effects.

Recent BRFSS data revealed that slightly more New Jersey residents reported no leisure time physical activity than did U.S. residents (28.7 percent vs. 26.6 percent respectively). As noted in Table 3, more New Jersey adults participated in regular and sustained physical activity (21.4 percent) than regular and vigorous activity (14.3 percent). Across the U.S., the percentage of adults reporting regular and sustained physical activity ranged from 14.3 percent in Kentucky to 29.3 percent in the District of Columbia. The range for regular and vigorous physical activity in the U.S. was from 8.9 percent in Louisiana to 18.3 percent in Montana.

Body Mass Index for Adults

Different measures are used to determine whether a person is considered normal weight, overweight, or obese, taking into account height. A common scale is the body mass index (BMI), or ratio of weight (in kilograms) to height (in meters, squared). For adults aged 20 years and older, overweight is defined as a BMI of 25.0-29.9 kg/m^2; obesity is defined as a BMI of 30.0 kg/m^2 or greater.

The table relates BMI to pounds and inches rather than kilograms and meters. BMI corresponds to an individual's height (in the left column) and weight category (in pounds). An adult aged 20 or older is considered overweight or obese if his or her weight falls within the corresponding area of the table. For example, a 5'4" woman is considered overweight if she weighs between 145 to 173 pounds. She is considered obese if she weighs 174 pounds or more. A 5'10" man is considered overweight if he weighs between 174 and 206 pounds and obese if he weighs 207 pounds or more.

* Overweight defined as BMI of 25 to 29.9 kg/m^2.
** Obesity defined as BMI of 30 kg/m2 or greater.

Height (feet,inches)	**Body Weight** (pounds) Overweight*	Obese**
6'4"	205	246
6'3"	200	240
6'2"	194	233
6'1"	189	227
6'0"	184	221
5'11"	179	215
5'10"	174	207
5'9"	169	203
5'8"	164	197
5'7"	159	191
5'6"	155	186
5'5"	150	180
5'4"	145	174
5'3"	141	169
5'2"	136	164
5'1"	132	158
5'0"	128	153
4'11"	124	148
4'10"	119	143

Healthy New Jersey 2010[1]

Objective

- Increase the percentage of persons aged 18 and over who participated in frequent leisure time physical activity during the past month to 42.5 percent.

Overweight and Obesity Among Adults

For over 15 years, the National Institutes of Health (NIH) has recognized obesity as an important cause of cancer, as well as diabetes and coronary heart disease.[12] Obesity has been implicated as a risk factor for cancers of the breast (among post-menopausal women), cervix, endometrium, uterus, ovary and gallbladder among women and cancers of the colon, rectum and prostate among men.[7] A recent study also implicated obesity in cancers of the pancreas and esophagus (adenocarcinoma).[13]

Recent national data show that obesity has reached epidemic proportions in the United States.[14] The percentage of obese adults has doubled over the past forty years from 12.8 percent in 1960 to 25 percent in 2000.

According to the BRFSS, 38.2 percent of residents in New Jersey are classified as overweight, and 18.5 percent are identified as obese (Table 4).

Table 4: Overweight and Obese, Adults 18 and Older, New Jersey and U.S., 2000

	Overweight*			Obese**		
	Male	Female	Total	Male	Female	Total
N.J.	48.4%	28.4%	38.2%	18.5%	18.6%	18.5%
U.S.	45.1%	28.5%	36.8%	20.6%	19.8%	20.0%

*Body mass index of 25.0-29.9 kg/m^2
**Body mass index greater than or equal to 30.0 kg/m^2
Source: American Cancer Society, 2002

Healthy New Jersey 2010[1]

Objectives

- Reduce the percentage of persons aged 18 and over who are overweight but not obese to:
  - 27.6 percent for all adults
  - 28.1 percent for non-Hispanic whites
  - 28.4 percent for non-Hispanic blacks
  - 32.4 percent for Hispanics
  - 36.6 percent for males
  - 25.1 percent for females
- Reduce the percentage of persons aged 18 and over who are obese to:
  - 12.0 percent for all adults
  - 12.0 percent for non-Hispanic whites
  - 15.0 percent for non-Hispanic blacks
  - 12.0 percent for Hispanics
  - 14.0 percent for males
  - 12.0 percent for females

Table 5: Eating 5 or More Fruits and Vegetables a Day*, High School Students, New Jersey and U.S., 1999

	Male	Female	Total
New Jersey	30.1%	26.5%	28.4%
U.S.	24.4%	23.4%	23.9%

* Had eaten five or more servings of 100% fruit juice, fruit, green salad, potatoes (excluding french fries, fried potatoes, or potato chips), carrots or other vegetables during the seven days preceding the survey.
Source: American Cancer Society, 2002

Table 6: Physical Activity, High School Students, New Jersey and U.S., 1999

	Male	Female	Total
Participated in Moderate Physical Activity*			
New Jersey	28.3%	29.7%	29.1%
U.S.	29.0%	24.4%	26.7%
Participated in Vigorous Physical Activity**			
New Jersey	76.9%	62.3%	69.2%
U.S.	72.3%	57.1%	64.7%

* At least 5 times per week, 30 minutes or more per session, regardless of intensity
**At least 3 times a week, 20 minutes or more session, 50% or more of capacity
Source: American Cancer Society, 2002

Nutrition Among Youth

Healthy eating behaviors established early in childhood often influence adult dietary patterns. Family members at home and primary caregivers outside of the home, such as daycare providers and teachers, influence eating behaviors. Often, dietary patterns deteriorate in childhood and adolescence,[15] but may improve in adulthood. Balanced diets are more difficult to maintain when snack foods and sodas high in sugar or fat are abundantly available.

A nutritious diet high in fruits and vegetables is important for growth and development. Recent Youth Risk Behavior Surveillance System (YRBSS) data showed that less than one-fourth (23.9 percent) of U.S. high school students ate five or more fruits and vegetables per day (Table 5). New Jersey high school students fared somewhat better than the national average, at 28.4 percent. Nonetheless, this suggests that more than 70 percent of high school students in New Jersey did not consume at least five servings of fruits and vegetables per day.

Physical Activity Among Youth

Physical activity in childhood, whether in a physical education class or in a community park, can help maintain a healthy weight and promote active adult lifestyles. Children and young adults who engage in physical fitness regularly improve their muscular strength and aerobic endurance. Improvements have been observed since the first national survey in 1992, which indicated that only one-half of U.S. youth aged 12 to 21 years regularly participated in vigorous physical activity.[16] According to the YRBSS, almost two-thirds (64.7 percent) of U.S. high school students participated in vigorous physical activity and approximately one-fourth (26.7 percent) were moderately active in 1999 (Table 6). Male students were more likely to participate in vigorous or moderate physical activity than female students, regardless of race and ethnicity.

The information for New Jersey students shows the percentages are higher than the national data. The 1999 YRBSS data revealed that 69.2 percent of New Jersey students participated in vigorous physical activity. Other states ranged from 55.2 percent (South Carolina) to 77.0 percent (Utah). In addition, 29.1 percent of New Jersey students participated in moderate physical activity. Other states ranged from 20.3 percent (Hawaii) to 32.7 percent (Maine).

Body Mass Index for Youth and Adolescents

Since children grow and their body composition changes dramatically through adolescence, the overweight and obesity definitions for youth differ from the definitions for adults. Caution is necessary when using BMI as a measure of body composition in youth.[18] Growth charts show the entire distribution of a measurement (height and weight) or measurement ratio (BMI) across a range of ages and present multiple percentiles. The growth charts were revised in 2000 and are available at Centers for Disease Control and Prevention's National Center for Health Statistics website at http://www.cdc.gov/growthcharts. In this report the following definitions are used:

- **Overweight: 95th or higher percentile for BMI**
- **At risk of becoming overweight: 85th to 94th percentile for BMI**

Source: American Cancer Society, 2002

Overweight and Obesity Among Youth

Research has shown that overweight children or adolescents are at greater risk of becoming overweight in adulthood.[17] Recent national data show that obesity in youth aged 6 to 17 years has increased since the 1960s across all subgroups of gender, race and ethnicity. According to the National Health and Nutrition Examination Survey (NHANES), a survey of the Centers for Disease Control and Prevention, approximately 11 percent of children and adolescents were classified as overweight and the largest increase has occurred since the mid-1970s. The same survey showed approximately 14 percent of youth were at risk for becoming overweight. Similar increases were observed among public and private high school students. The YRBSS data indicated that male students were more likely to be overweight or at risk for becoming overweight than female students.

Table 7: At Risk for Becoming Overweight, or Overweight, High School Students, New Jersey and U.S., 1999

	Male	Female	Total
At Risk for Becoming Overweight*			
New Jersey	15.5%	10.4%	12.8%
U.S.	17.5%	14.4%	16.0%
Overweight**			
New Jersey	9.2%	5.6%	7.4%
U.S.	11.9%	7.9%	9.9%

*Students who were at or above the 85th percentile but below the 95th percentile for body mass index by age and sex based on reference data from the National Health and Nutrition Examination Survey I.
**Students who were at or above the 95th percentile for body mass index by age and sex based on reference data from the National Health and Nutrition Examination Survey I.
Source: American Cancer Society, 2002

According to YRBSS 1999 data, the percentage of New Jersey youth who were overweight was 7.4 percent, and the percentage at-risk for becoming overweight was 12.8 percent (Table 7).

Working Toward Community Change

The U.S. Surgeon General and numerous health organizations have identified the high prevalence of obesity and physical inactivity as serious challenges for the prevention of cancer and other chronic diseases. An estimated 97 million U.S. adults are overweight or obese.[12] Overweight and obesity rank as the second leading cause of preventable premature death in the U.S., accounting for an estimated $70 billion in direct medical costs in 1995. In New Jersey, 2.9 million residents are overweight or obese at an annual direct medical cost of $2.1 billion.

Current trends toward increasing consumption of high-calorie convenience foods, meals prepared outside the home, reliance on automobiles for transportation and reduced leisure time all present obstacles to healthy dietary and physical activity behaviors.

Social, economic and cultural factors strongly influence individual choices about diet and physical activity. Community and culturally appropriate actions that facilitate healthy dietary choices and regular physical activity are essential if the current progress on cancer and cardiovascular disease mortality is to be sustained.

Environmental Cancer Risks

The degree of risk from pollutants in food, drinking water and air depends on the concentration, intensity and duration of exposure. Substantial increases in risk have been shown in settings where workers have been exposed to high concentrations of ionizing radiation, certain chemicals, metals and other substances, as well as among radiation victims and patients treated with drugs or therapies later found to be carcinogenic.

Even low-dose exposures that pose only small risk to individuals can still cause substantial ill health across an entire population if the exposures are widespread. For example, secondhand tobacco smoke increases risk in large numbers of people who do not smoke but are exposed to others' smoke. Strong regulatory controls and attention to safe occupational practices, drug testing and consumer product safety play an important role in reducing risk of cancer from environmental exposures.

Risk Assessment

The risk assessment process evaluates the cancer-causing potential of a substance, the levels of the substance in the environment and the extent to which people are actually exposed. However, the process is not perfect. For most potential carcinogens, data are only available from high-dose experiments in animals or highly exposed occupational groups. Risk assessment generally makes conservative assumptions to err on the side of safety. For cancer safety standards, acceptable risks are usually limited to those that increase risk by no more than one case per million persons over a lifetime.

Safety standards developed in this way for chemical or radiation exposures are the basis for federal regulatory activities at the Food and Drug Administration, the Environmental Protection Agency and the Occupational Safety and Health Administration. The application of laws and procedures by which standards are implemented and risks are controlled is called risk management.

Infectious Agents and Cancer

The role of infectious diseases has been known as a cause of cancer in animals since the beginning of the last century. Only recently has infection with certain viruses, bacteria, and parasites in human cancer been recognized as a risk factor for several types of cancer. Examples include Epstein-Barr virus, human immununodeficiency virus, helicobacter pylori, human papilloma virus, and hepatitis B and C viruses.

Although some types of infection can increase a person's risk of developing certain types of cancer, most people with these infections never develop cancer. Their likelihood of developing a cancer may also be influenced by other risk factors. For example, Helicobacter pylori infection may increase a person's risk of developing stomach cancer, but that risk is also influenced by dietary factors (high intake of smoked and salted foods and starches with low intake of fruits and vegetables) and smoking.

Even though some infections that influence cancer risk are contagious, it is important to remember that cancer is not a contagious disease. A healthy person cannot contract cancer from someone else who has cancer.

The Impact of Cancer

The impact of cancer in New Jersey is described in the following overview of cancers of the breast, prostate, lung and bronchus, colon and rectum, oral cavity and pharynx, melanoma of the skin and cervical. These seven sites have been identified as priorities by the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey. Healthy People 2010 Objectives are provided by the New Jersey Department of Health and Senior Services and are useful in monitoring progress in cancer control.

Female Breast Cancer

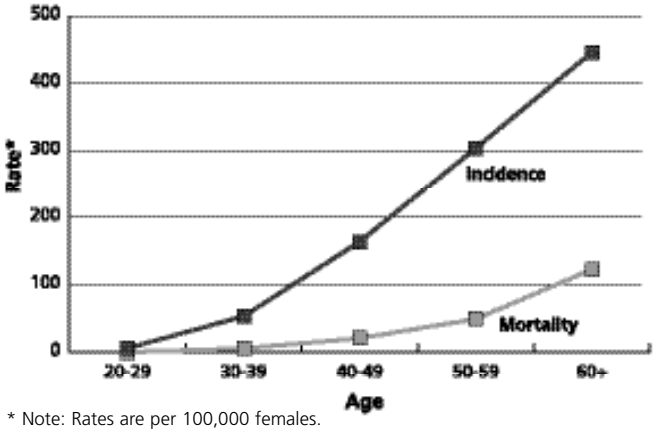
Breast cancer is the most common cancer among women in New Jersey (Table 1). An estimated 6,900 new cases of invasive breast cancer are expected to occur among women in New Jersey during 2002 (Table 2). A study in trends in incidence by the New Jersey State Cancer Registry published in September 2001 shows a two percent decline in New Jersey female breast cancer incidence between 1998 and 1999. The 1999 New Jersey rate of 141.0 cases per 100,000 is approaching the national rate of 139.1 per 100,000.

Breast cancer deaths continue to rank second among cancer deaths in New Jersey women, despite the fact that mortality rates have been declining. Recent information for New Jersey indicates a reduction in the mortality rate from 31.2 per 100,000 in 1998 to 27.5 per 100,000 in 1999. The New Jersey breast cancer death rate is approximately the same as the national rate, which declined from 27.9 per 100,000 in 1998 to 27.0 per 100,000 in 1999.[2]

The risk of breast cancer increases with age. For each age group after 30 to 39, the age-adjusted incidence and mortality rates steadily increase (Figure 3). New Jersey women ages 30 to 39 have an incidence rate for breast cancer of 53.2 cases per 100,000 population. This rate increases dramatically to 163.7 per 100,000 for the ages 40 to 49 and to 303.8 per 100,000 by ages 50 to 59. Incidence rates increase to 445.9 per 100,000 for New Jersey women over age 60.

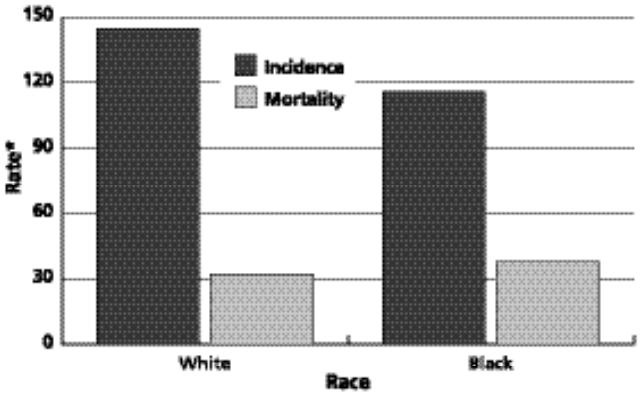
Trends in age-related mortality rates are consistent with the age related incidence trends. Mortality rates increase from less than 6 per 100,000 for women ages 30 to 39 to nearly 123 per 100,000 for New Jersey women over age 60 (Figure 3).

Figure 3: Female Breast Cancer Incidence and Mortality Rates by Age, New Jersey, 1998-1999



* Note: Rates are per 100,000 females.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 4: Female Breast Cancer Incidence and Mortality Rates by Race, New Jersey, 1995-1999



*Rates are per 100,000 females, age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

By race, the data for New Jersey exceeds national norms for white women. The New Jersey breast cancer incidence rate between 1995 and 1999 was 144.7 per 100,000 for whites compared to a national rate of 140.9 per 100,000 in this time frame for whites. New Jersey's incidence rate for black females of 116.0 per 100,000 is less than the national incidence rate of 123.7 per 100,000 for black females. However, the black death rate exceeds the death rates for white females. Between 1995 to 1999, the New Jersey death rate for blacks was 37.8 per 100,000 compared to a death rate for whites of 31.9 per 100,000 (Figure 4).

Table 8: Mammogram and Clinical Breast Exam, Women 40 and Older, New Jersey and U.S., 2000

	Recent Mammogram*			Recent Mammogram & Clinical Breast Exam**		
	40+	40-64	65+	40+	40-64	65+
N.J.	66.8%	67.3%	65.7%	58.0%	60.5%	53.0%
U.S.	62.4%	62.1%	65.3%	55.4%	56.9%	54.0%

*A mammogram within the past year
**Both a mammogram and clinical breast exam within the past year.
Source: American Cancer Society, 2002

Figure 5: Percent of Breast Cancer Cases Diagnosed in Early Stages by Race, New Jersey, 1999

Note: Includes in situ and local. Unstaged cancers were included in the denominator.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Survival and Stage at Diagnosis

Survival rates from breast cancer vary with the stage of the tumor at diagnosis and the extent that it has spread. The best survival rates occur in women who are diagnosed with localized early stage disease and the lowest survival rates are for women diagnosed with late stage disease that has metastasized.

The five-year relative survival rate for localized breast cancer has increased from 72 percent to 96 percent in the past fifty years. For breast cancer that has spread regionally, the survival rate decreases to 78 percent. For women with distant metastases, the rate is 21 percent. Survival at ten years or more is also stage-dependent, with the best survival observed in women diagnosed with early stage disease.

In New Jersey, almost two-thirds of new breast cancer cases are identified in the early stages of the disease. However, a higher percentage of white women are diagnosed at an earlier stage. In 1999, 65 percent of the new cases in white women were diagnosed in early stages, compared with 57 percent in black women (Figure 5).

Risk Factors

In addition to age and race, the risk of breast cancer is highest in women who have a personal or family history of breast cancer, biopsy-confirmed atypical hyperplasia, increased breast density, and/or a long menstrual history. Other risk factors that increase breast cancer risk include obesity after menopause, recent use of oral contraceptives or post-menopausal estrogens and progestin. Women who have never had children, had their first child after age 30 or who consume alcoholic beverages are also at increased risk.

Screening

Mammography is especially valuable as an early detection tool because it can identify breast cancer at an early stage before physical symptoms develop. Numerous studies have shown that early detection saves lives and increases treatment options. The decline in breast cancer mortality has been attributed, in large part, to the regular use of screening mammography. The American Cancer Society recommends that women age 40 and older have an annual mammogram, an annual clinical breast examination by a health care professional (close to and preferably before the scheduled mammogram) and perform monthly breast self-examination. Women ages 20-39 should have a clinical breast examination by a health care professional every three years and should perform breast self-examination monthly.

In 2000, New Jersey women were more likely to follow American Cancer Society recommendations than other women in the U.S. As noted in Table 8, 66.8 percent of New Jersey women over the age of 40 reported having had a mammogram in the last year, which is higher than the national median of 62.4 percent. Additionally, 58.0 percent of the women in this 40 and older age group reported having both a mammogram and clinical breast exam, which is also higher than the national median of 55.4 percent.

Healthy New Jersey 2010[1]

Objectives

- Reduce the death rate from female breast cancer per 100,000 population to:
  - 17.0 for all females (age-adjusted)
  - 17.0 for white females (age-adjusted)
  - 23.3 for black females (age-adjusted)
  - 47.3 for females 50-64
  - 120.0 for females 65+
- Increase the percentage of females aged 40 and over who received a clinical breast examination and a mammogram within the past two years to:
  - 75.0 percent for all females 40+
  - 75.0 percent for white females
  - 75.0 percent for black females
  - 75.0 percent for Hispanic females
  - 85.0 percent for females 50-64
  - 75.0 percent for females 65+
- Increase the percentage of female breast cancers diagnosed in early (in situ/local) stage of disease to 75.0 percent.

Prostate Cancer

There are more cases of prostate cancer diagnosed in New Jersey males than any other kind of cancer, with an estimated 5,700 new cases expected in New Jersey during 2002 (Table 2). Nationally, between 1988 and 1992, prostate cancer incidence rates increased dramatically in men. Prostate cancer incidence rates have subsequently leveled off.

Prostate cancer is the third leading cause of cancer-related death for New Jersey males (Table 1). The New Jersey prostate death rate declined from 32.9 per 100,000 in 1998 to 29.3 percent per 100,000 in 1999. The rate of decline has been more rapid in New Jersey than for the nation, which decreased from 32.3 per 100,000 in 1998 to 31.1 per 100,000 in 1999.[2]

The incidence of prostate cancer increases with age (Figure 6). In New Jersey, nearly 84 percent of all prostate cancers are diagnosed in men over age 60. Incidence rates increase from 230.3 per 100,000 for men between the ages of 50 and 59 to 954.7 per 100,000 for men over age 60. Death rates increase substantially for older men, from less than 10 per 100,000 in men ages 59 and younger to 157.5 per 100,000 age 60 and older.

Black men have the highest prostate cancer incidence rates in the world. Recent studies suggest that strong familial disposition may be responsible for 5 to 10 percent of prostate cancers. Between 1995 and 1999, the incidence rate for black men in New Jersey was 277.8 per 100,000 compared to 180.7 per 100,000 for white men (Figure 7).

In 1999, the age-adjusted mortality rate for white men in New Jersey was 10.4 per 100,000, and the U.S. age-adjusted rate was 10.7 per 100,000. For black men in 1999, the age-adjusted rate was 20.6 per 100,000 in New Jersey and 24.3 per 100,000 in the U.S.[2]

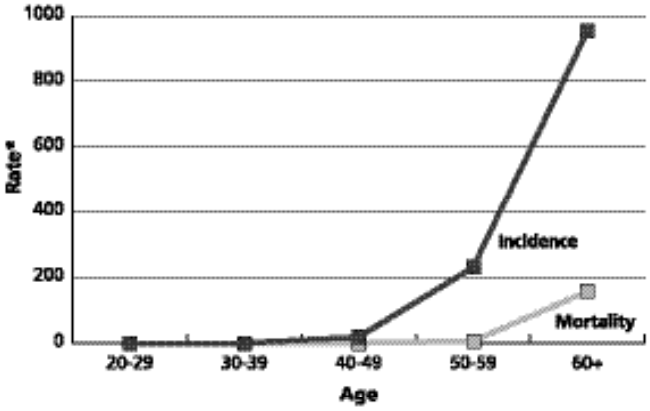
Long term, mortality rates parallel this pattern with mortality for U.S. black men at 67.5 deaths per 100,000 and white men at 31.8 per 100,000 in the time period 1995 to 1999.

Survival and Stage at Diagnosis

Survival rates from prostate cancer vary with the stage of the tumor at detection and the extent that it has spread. The best survival rates occur in men who are diagnosed with early stage disease and the lowest survival rates occur among men diagnosed with late stage disease.

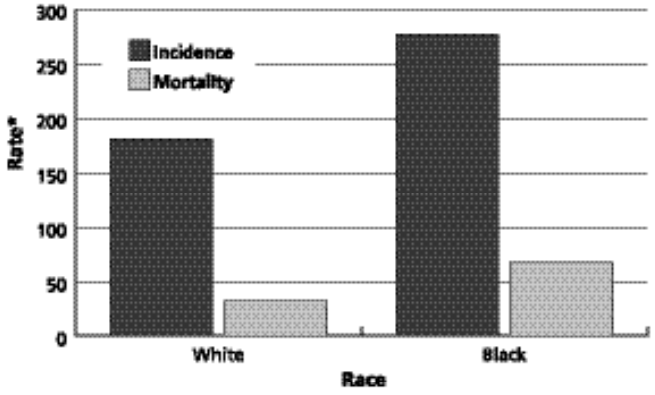
Among men diagnosed with prostate cancer, 97 percent survive at least five years, 79 percent survive at least ten years, and 57 percent survive at least 15 years. These figures include all stages and grades of prostate cancer, but do not account for men who die from other causes. At least 70 percent of all prostate cancers are found while they are still localized (confined to the prostate), and at least 85 percent have not spread beyond the surrounding tissues or lymph nodes. The five-year relative survival rate for all of these men is nearly 100 percent. Of the roughly six percent of men whose prostate cancers have

Figure 6: Prostate Cancer Incidence and Mortality Rates by Age, New Jersey, 1998-1999



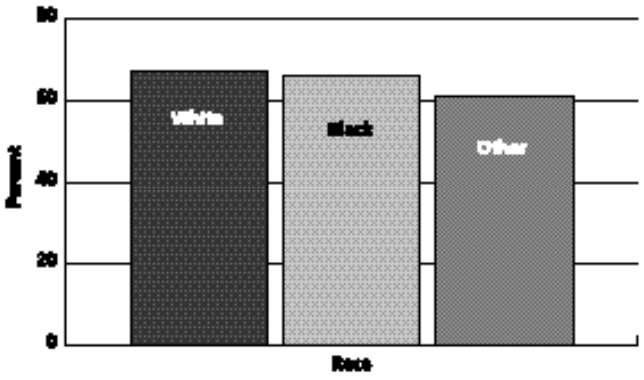
*Rates are per 100,000 males.
Source: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 7: Prostate Cancer Incidence and Mortality Rates by Race, New Jersey, 1995-1999



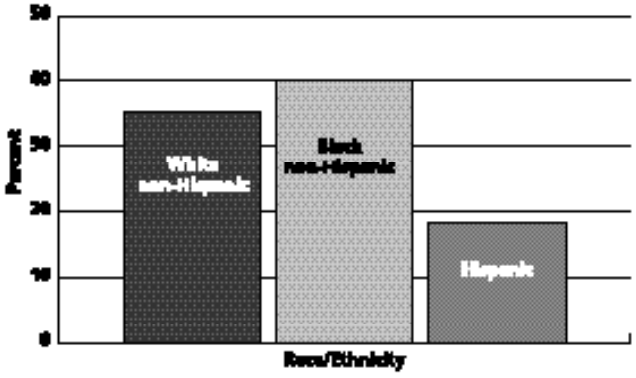
*Rates are per 100,000 males, age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 8: Percent of Prostate Cancer Cases Diagnosed in Early Stages by Race, New Jersey, 1999



Note: Includes in situ and local. Unstaged cancers were included in the denominator.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 9: Digital Rectal Exam and Prostate-Specific Antigen Test within Last Year by Race/Ethnicity*, New Jersey, 1999



Hispanics can be of any race.
*Men age 50 and older
Source: American Cancer Society, 2002

already spread to distant parts of the body at the time of diagnosis, 34 percent will survive at least five years. The current data for New Jersey is presented in Figure 8.

Risk Factors

As with other cancers, age and race are important risk factors for consideration in prostate cancer.

In addition, men who eat a high fat diet have a greater chance of developing prostate cancer. Regular physical activity and maintaining a healthy weight may help reduce prostate cancer risk.

Prostate cancer appears to be common in some families, suggesting an inherited or genetic factor. Having a father or brother with prostate cancer doubles a man's risk of developing this disease. The risk is even higher for men with several affected relatives, particularly if their relatives were young at the time of diagnosis.

Screening

The American Cancer Society recommends that both an annual prostate-specific antigen (PSA) test and digital rectal examination (DRE) be offered beginning at age 50. Those in higher risk groups—black men and men with a family history of prostate cancer—should have testing beginning at age 45.

As noted in Figure 9, black, non-Hispanic men in New Jersey were more likely to have both a DRE and PSA than any other race/ethnic group. Just over 40 percent of black, non-Hispanic men in New Jersey reported having both a DRE and PSA in 1999, compared to 35.3 percent of white, non-Hispanic residents, and 18.2 percent of Hispanic men.

The American Cancer Society and the New Jersey Department of Health and Senior Services recommend that doctors openly discuss the benefits and risks of testing at yearly check-ups. Men are encouraged to learn about prostate cancer and the pros and cons of early detection and treatment so they can actively participate in the decision to have the tests.

Healthy New Jersey 2010[1]

Objective

- Reduce the age-adjusted death rate of males from prostate cancer per 100,000 population to:
  - 10.0 for total males
  - 10.0 for white males
  - 25.3 for black males

Lung and Bronchus Cancer

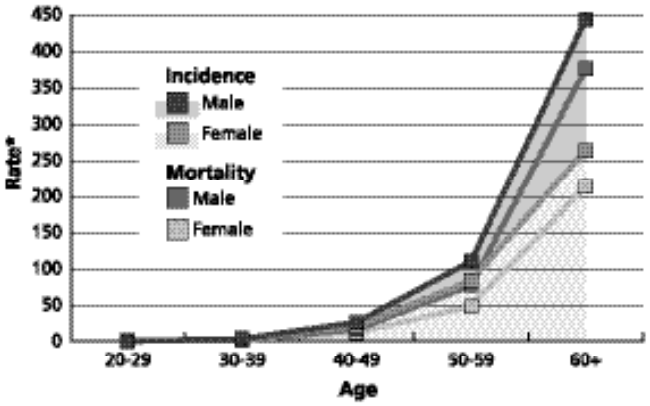
Lung and bronchus cancer (hereafter referred to as lung cancer) is the second most commonly diagnosed cancer in New Jersey men and women (Table 1). There will be an estimated 4,900 new cases in 2002, accounting for about 12 percent of the expected New Jersey cancer diagnoses (Table 2). Although the incidence rate has declined in men, for women the incidence rate has increased over the past five years. The current incidence rates (Table 1) for New Jersey men (87.0 per 100,000) and women (55.7 per 100,000) are higher than the U.S. rates of 81.1 and 50.7 per 100,000 for men and women, respectively.

Lung cancer is the most deadly cancer, accounting for 27 percent of all New Jersey cancer deaths in 1999. In 1999, there were 4,728 deaths from lung cancer in New Jersey or nearly 13 deaths per day. The death rate for men has declined from 78.5 per 100,000 in 1995 to 73.1 per 100,000 in 1999 (Table 1), which is lower than the national rate of 77.2 per 100,000 in 1999. The death rate for women in New Jersey is essentially unchanged, from 41.9 per 100,000 in 1995 to 41.7 per 100,000 in 1999. The lung cancer death rate for women in New Jersey was comparable to the national rate of 40.7 per 100,000 in 1999.[2]

As noted in Figure 10, the risk of lung cancer increases with age. Ninety-four percent of New Jersey residents who develop lung cancer are age 50 or older at the time of diagnosis; and 80 percent are age 60 or older at the time of diagnosis. Male incidence rates in New Jersey increase from 20.6 per 100,000 for men ages 40 to 49 to 443.8 per 100,000 for men age 60 and older. Similarly, incidence rates for women increase from 21.4 per 100,000 for women ages 40 to 49 to 263.8 per 100,000 for women over age 60. Male mortality rates in New Jersey increase from 15.9 per 100,000 for men ages 40 to 49, to 375.6 per 100,000 for men over age 60. Women's rates mirror this pattern. New Jersey women ages 40 to 49 have a mortality rate of 11.7 per 100,000, which increases to 213.1 for women age 60 and older.

The incidence rate for lung cancer is higher for black males than for white males in New Jersey. However, white females in New Jersey have higher incidence rates than New Jersey black females (Figure 11). The male incidence rates were 92.0 per 100,000 for white males and 119.4 per 100,000 for black males in New Jersey. Although white females have a lower incidence rate (56.9 per 100,000) than males, this rate is higher than for black females (52.9 per 100,000) between 1995 and 1999.

Figure 10: Lung & Bronchus Cancer Incidence and Mortality Rates by Age and Gender, New Jersey, 1998-1999



*Rates are per 100,000 persons.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

New Jersey lung cancer mortality rates by race parallel the incidence patterns described above (Figure 11). Between 1995 and 1999, black men had a lung cancer mortality rate of 100.3 per 100,000, compared with a rate of 75.1 per 100,000 for white men. Mortality rates among women are closer, with 43.0 per 100,000 for white women and 43.7 for black women.

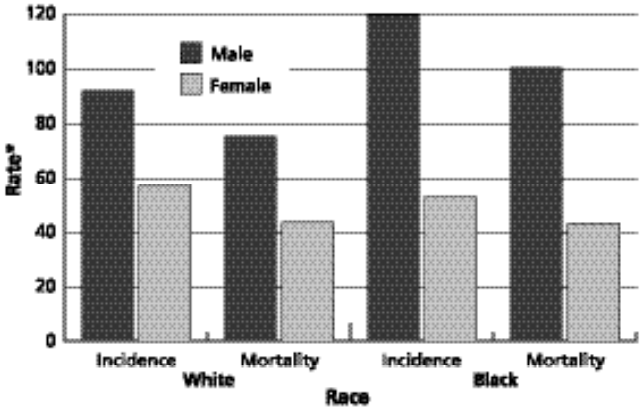
Survival and Stage at Diagnosis

The one-year relative survival rate for lung cancer has increased from 34 percent in 1975 to 41 percent in 1997. The five-year survival rate for all stages combined is only 15 percent. For cases detected when the disease is still localized, the survival rate is 48 percent; however, only 15 percent of lung cancers are diagnosed at this early stage.

Risk Factors

Smoking is the most preventable cause of death in our society because of its link to heart disease, lung cancer and many other cancers. Nearly 87 percent of all lung cancer deaths can be attributed to smoking. Other risk factors for lung cancer include exposure to certain industrial substances, including arsenic, some organic chemicals, occupational or environmental exposures to radon and asbestos, radiation exposure from occupational, medical and environmental sources, air pollution, and environmental tobacco smoke.

Figure 11: Lung & Bronchus Cancer Incidence and Mortality Rates by Race and Gender, New Jersey, 1995-1999



*Rates are per 100,000 persons age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Table 9: Tobacco Use Among Adults, New Jersey and U.S., 1999

Current Cigarette Smoking*

Characteristic	New Jersey	U.S.
Total	**21.0%**	**23.3%**
Gender		
Male	23.5%	24.5%
Female	18.6%	21.2%
Low Education**	24.6%	30.1%
Race		
White, non-Hispanic	21.9%	23.2%
Black, non-Hispanic	21.0%	21.5%
Hispanic	19.1%	21.6%
Other, non-Hispanic	14.2%	24.4%

* Defined as adults 18 years old and older who have ever smoked 100 cigarettes and are current smokers (Regular and irregular)
** Adults 25 years old and older with less than a high school education.
Source: American Cancer Society, 2002

Table 10: Tobacco Use Among High School Students, New Jersey and U.S., 1999

Male		Female		Total	
N.J.	U.S.	N.J.	U.S.	N.J.	U.S.
Current Cigarette Smoking*					
33.0%	34.7%	34.3%	34.9%	33.8%	34.8%
Frequent Cigarette Smoking**					
14.9%	17.9%	16.6%	15.6%	15.9%	16.8%
Smokeless Tobacco***					
9.5%	14.2%				

*Smoked cigarettes on one or more of the 30 days preceding the survey.
**Smoked cigarettes on 20 or more of the 30 days preceding the survey.
***Used chewing tobacco or snuff on one or more of the 30 days preceding the survey.
Sources: Youth Risk Behavior Surveillance System, 1999; National Center for Chronic Disease Prevention and Health Promotion; Centers for Disease Control and Prevention, 2000

Tobacco Use

According to the 1999 BRFSS, 21.0 percent of New Jersey adults identify themselves as current smokers, a level which is below the national median of 23.3 percent (Table 9). Adult males are more likely to smoke than females, with 23.5 percent of New Jersey males reporting themselves as current smokers versus 18.6 percent of females. Both genders in New Jersey smoke at a lower rate than the U.S. medians of 24.5 percent and 21.2 percent for males and females, respectively.

Tobacco use among youth in New Jersey is similar to the national data (Table 10). About one-third of youth in New Jersey are current cigarette smokers compared with nearly 35 percent of the U.S. youth. Almost 16 percent of New Jersey high school students are frequent smokers. Unlike the national pattern, more New Jersey females report they smoke frequently than males (16.6 percent versus 14.9 percent, respectively).

Screening

Since most people with early lung cancer do not have any symptoms, only about 15 percent of lung cancers are found at an early stage. When lung cancer is found early, it is often as a result of a chest x-ray, CT scan or other test done for another reason.

Healthy New Jersey 2010[1]

Objectives

- Reduce the percentage of middle school students who have used cigarettes in the past 30 days to:
  - 10 percent for all middle school students
  - 10 percent for all white non-Hispanic students
  - 7 percent for all black non-Hispanic students
  - 10 percent for all Hispanic middle school students
- Reduce the percentage of public high school students who say they are currently smoking to:
  - 26 percent of all high school students
  - 26 percent for all white non-Hispanic high school students
  - 15 percent for all black non-Hispanic high school students
  - 26 percent for all Hispanic high school students
- Reduce the death rate from lung cancer per 100,000 population to:
  - 28.5 for the total population (age-adjusted)
  - 28.5 for whites (age-adjusted)
  - 31.6 for blacks (age-adjusted)
  - 29.0 for males (age-adjusted)
  - 27.0 for females (age-adjusted)
  - 296.9 per persons 65+

Colon and Rectum Cancer

Colon and rectum cancer (hereafter referred to as colorectal cancer) is the third most common cancer diagnosed in New Jersey and second most common cause of cancer deaths. Colorectal cancers are projected to account for 4,900 new cancer cases in New Jersey in 2002 (Table 2). In 1999, the U.S. colorectal incidence rate was 60.3 per 100,000 men and 47.1 per 100,000 women. New Jersey rates exceed these national norms, with 78.3 cases per 100,000 men and 52.9 cases per 100,000 women (Table 1).

Colorectal cancer is expected to cause 1,900 deaths among New Jersey residents in 2002, which represents 11 percent of all projected cancer-related deaths (Figure 1). Colorectal death rates have varied little since the mid-1990s. In 1999, the U.S. mortality rate for men was 25.4 per 100,000 men and 18.0 per 100,000 women. In New Jersey, the mortality rate for men in 1999 was 26.7 per 100,000 and 19.3 per 100,000 women (Table 1).[2]

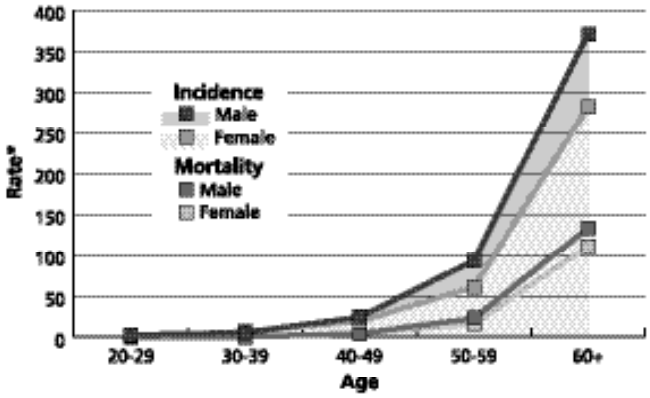
As is the case with most cancers, the risk of colorectal cancer increases significantly with age (Figure 12). More than 94 percent of New Jersey residents who develop colorectal cancer are age 50 or older at the time of diagnosis. Rates more than triple between each ten-year age cohort from ages 30 to 39 through age 60 and older. Males consistently have higher colorectal incidence and death rates than women (See Figures 12 and 13).

In 1995-1999, New Jersey age-related incidence rates for males increased from 23.8 cases per 100,000 for ages 40 to 49 to 370.3 per 100,000 for ages 60 and older, and female incidence rates increased from 18.7 per 100,000 for ages 40 to 49 to 280.9 per 100,000 for ages 60 and older.

During this same time period, the age-related mortality rate among males in New Jersey increased from 4.0 deaths per 100,000 for ages 40 to 49 to 132.9 per 100,000 for those ages 60 and older. Female mortality rate increased from 4.7 per 100,000 for ages 40 to 49 to 110.8 per 100,000 for women ages 60 and older (Figure 12).

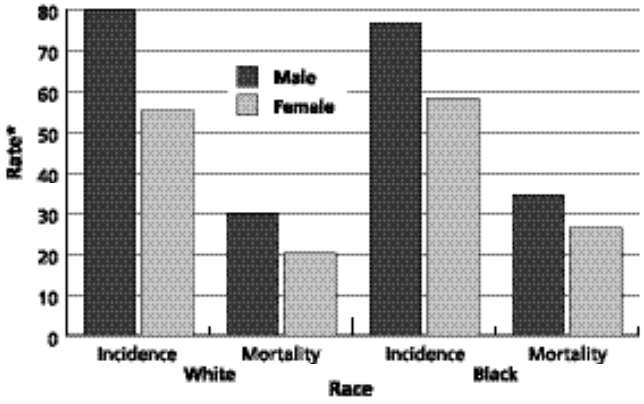
By race the incidence rate in white males (79.7 per 100,000) exceeded that of black males (76.6 per 100,000), but black males had a higher mortality rate than white males. Males of both races had a higher incidence rate than females. Between 1995-1999 New Jersey white females had an incidence rate of 55.3 per 100,000, compared to 58.1 per 100,000 in black females (Figure 13).

Figure 12: Colon & Rectum Cancer Incidence and Mortality Rates by Age and Gender, New Jersey, 1998-1999



*Rates are per 100,000 persons.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 13: Colon & Rectum Cancer Incidence and Mortality Rates by Race and Gender, New Jersey, 1995-1999



*Rates are per 100,000 persons age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

White males in New Jersey have a higher incidence rate of colorectal cancer, but black males have higher mortality rate. The white male rate of 29.7 deaths per 100,000 is lower than that for black males (34.3 per 100,000). Mortality rates are lower among females of both races, with 20.3 per 100,000 for white women and 26.3 per 100,000 for black women. (Figure 13).

Survival and Stage at Diagnosis

Survival rates from colorectal cancer are highest when the disease is diagnosed early. When the cancer is not found at a localized stage, treatment is less effective. The one- and five-year survival rates for patients with colorectal

American Cancer Society Recommendations for Early Detection of Colon and Rectum Cancer

Since there are several different screening tests available for detecting colorectal cancer early, the American Cancer Society makes the following recommendations for when the tests should be performed:

Beginning at age 50, both men and women should follow one of the five screening options:

- Yearly fecal occult blood test (FOBT)*, or
- Flexible sigmoidoscopy every five years, or
- Yearly fecal occult blood test plus sigmoidoscopy every five years.**
- Double-contrast barium enema every five years.
- Colonoscopy every ten years.

*For FOBT, the take-home, multiple sample method should be used. All positive tests should be followed up with colonoscopy.
**The combination FOBT and flexible sigmoidoscopy is preferred over either of these two tests alone.
People with certain risk factors should begin screening earlier or have screening more often.
For more information, please see www.cancer.org.

Table 11: Colon & Rectum Cancer Screening, Adults 50 and Older, New Jersey and the U.S., 1999

	Recent FOBT*		Recent Sigmoidoscopy or Colonoscopy**	
	N.J.	U.S.	N.J.	U.S.
Total	**26.1%**	**19.1%**	**35.3%**	**32.3%**
Age 50-64 years old	23.0	16.1	30.2	26.9
65 years or older	29.6	23.0	41.0	39.0
Gender Male	25.5	17.1	42.0	34.2
Female	26.6	21.3	30.1	30.3
Low Education ***	16.9	16.7	25.3	30.3
Race/Ethnicity				
White (non-Hispanic)	29.3	20.0	38.0	32.8
Black (non-Hispanic)	12.3	20.8	25.2	31.7
Hispanic	15.9	14.2	24.9	28.6
Other (non-Hispanic)	–	9.4	–	30.3

*A fecal occult blood test within the past year.
** A sigmoidoscopy or colonoscopy within the preceding five years.
***Adults 50 year old and older with less than a high school education.
Source: American Cancer Society, 2002

cancer are 81 percent and 61 percent respectively, for all races combined. If the cancer is detected early, however, the five-year survival is approximately 90 percent. Only 37 percent of cancers are found at this stage. Late stage diagnosis of colorectal cancer is common across all race/ethnic groups. In 1999, 36 percent of blacks in New Jersey were diagnosed at the earliest stage, compared to 38 percent of whites. When the cancer has spread regionally to involve adjacent organs or lymph nodes, survival drops to 64 percent and it is drastically lower after the cancer has metastasized (8 percent).

Risk Factors

Approximately 90 percent of all colorectal cancer cases and deaths are thought to be preventable. Most people can reduce their risk of colorectal cancer by eating a healthy, low-fat diet and increasing their level of physical activity.

Screening

Despite the efficacy and cost-effectiveness of several existing screening tests, the use of these tests for prevention remains extremely low. Several existing screening regimens, including fecal occult blood test, colonoscopy and sigmoidoscopy, have been proven to be effective in reducing mortality from colorectal cancer. These tests allow detection and removal of adenomatous polyps before they become cancerous and the removal of early-stage colorectal cancer when the disease is still highly curable. Tumors detected because of bleeding or pain have usually progressed beyond the localized stage.

In 1999, only 26.1 percent of New Jersey residents age 50 and older reported having a recent (within the past year) fecal occult blood test, and 35.3 percent reported having a sigmoidoscopy or colonoscopy in the last five years. Results for these recommended colorectal screening examinations vary by age, gender, race/ethnic group and education (Table 11).

Healthy New Jersey 2010[1]

Objectives

- Reduce the death rate from colorectal cancer per 100,000 population to:
  - 10.0 for the total population (age-adjusted)
  - 10.0 for whites (age-adjusted)
  - 14.0 for blacks (age-adjusted)
  - 122.7 for persons 65+
- Reduce the age-adjusted incidence of cancer of the rectum and rectosigmoid per 100,000 population to:
  - 13.2 for the total population
  - 13.5 for whites
  - 9.8 for blacks
- Increase the proportion of people aged 50 or older who have received a fecal occult blood test within the past year and/or have ever undergone sigmoidoscopy to 65 percent.

Oral Cavity and Pharynx Cancer

Oral cavity and pharynx cancer has been identified as an area of emphasis by the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey. These cancers include cancer of the lip, tongue, floor of the mouth, palate, gingival and alveolar mucosa, buccal mucosa and oropharynx. In New Jersey, oral and oropharyngeal cancers account for approximately two percent of all cancers diagnosed in 1999 and one percent of all cancer deaths.

There were approximately 1,000 new cases of oral cavity and pharynx cancers in New Jersey in 1999. Incidence rates are much higher in men than in women and are greatest in men who are over age 40. There were over 220 oral cavity and pharynx cancer deaths in 1998 to 1999 in New Jersey. The male mortality rate for all ages and races was 3.9 per 100,000 in 1998 to 1999 compared to a female mortality rate of 1.6 per 100,000.

By age, oral cavity and pharynx cancer incidence rates and mortality rates at age 60 and older are three times higher than at ages 40 to 49 (Figure 14). Incidence rates in 1998 through 1999 increased from 9.5 per 100,000 for those ages 40 to 49 to 36.5 per 100,000 for those age 60 and over in New Jersey. The death rate increased from 1.6 per 100,000 to 11.1 per 100,000 for those ages 40 to 49 and 60 and older respectively.

In New Jersey, oral cavity and pharynx cancer mortality is higher for men than women (Figure 15). Black men have the highest death rate at 8.2 deaths per 100,000 between 1995 and 1999, and white males have a rate of 3.8 per 100,000. Females have lower rates of 1.5 per 100,000 and 2.9 per 100,000 for white and black New Jersey women, respectively in this same timeframe.

Survival and Stage at Diagnosis

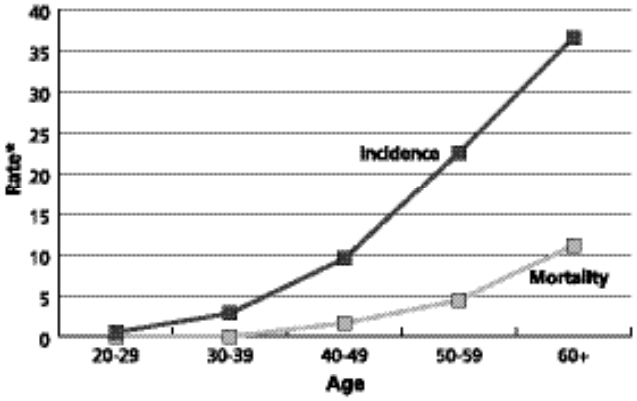
For all stages combined, about 84 percent of oral cavity and pharynx cancer patients survive one year after diagnosis. The five-year and ten-year relative survival rates are 54 percent and 39 percent, respectively.

Risk Factors

About 90 percent of people with oral cavity and pharynx cancer use tobacco, and the risk of developing these cancers increases with the amount smoked or chewed and duration of the habit. Smokers are six times more likely than nonsmokers to develop these cancers. About 37 percent of patients who persist in smoking after apparent cure of their cancer will develop second cancers of the oral cavity, oropharynx, or larynx, compared with only six percent of those who stop smoking. Tobacco smoke from cigarettes, cigars or pipes can cause cancers anywhere in the oral cavity or oropharynx, as well as causing cancers of the larynx, lung, esophagus, kidney, bladder, and several other organs.

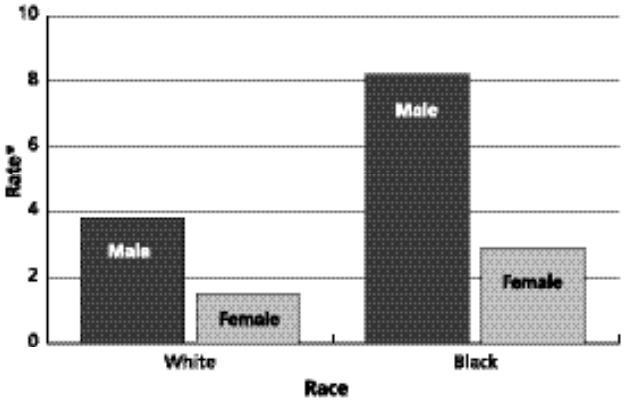
Alcohol consumption strongly increases a person's risk of developing oral cavity and pharynx cancer. About 75 to 80 percent of all patients with oral cancer frequently consume alcohol. These cancers are about six times more common in drinkers than in nondrinkers. As noted above, oral cavity and pharynx cancer is twice as

Figure 14: Oral Cavity and Pharynx Cancer Incidence and Mortality Rates by Age, New Jersey, 1998-1999



*Rates are per 100,000 persons.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 15: Oral Cavity and Pharynx Cancer Mortality Rates by Race and Gender, New Jersey, 1995-1999



*Rates are per 100,000 persons age-adjusted to the 2000 U.S. standard population.
Source: New Jersey Center for Health Statistics

common in men as in women. This may be because men are more likely to use tobacco and alcohol. Many people can reduce their risk by refraining from cigarette, cigar, or pipe smoking, use of smokeless tobacco and excessive alcohol consumption.

Screening

Cancer can affect any part of the oral cavity, including the lip, tongue, mouth and throat. Dentists and primary care physicians can identify abnormal changes in oral tissues and detect cancer at an early, curable stage. Regular dental checkups that include an examination of the entire mouth are important in the early detection of oral cavity and pharynx cancers and precancerous conditions. The American Cancer Society also recommends that primary care doctors examine the mouth and throat as part of a routine cancer-related checkup.

Healthy New Jersey 2010[1]

Objective

- Reduce the percentage of oral cancer diagnosed in the late (regional and distant) states of disease to:
  - 40.0 percent for all males
  - 35.0 percent for all females

Melanoma of the Skin

Melanoma of the skin (hereafter referred to as melanoma) has been identified as an area of emphasis by the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey because it is a preventable and curable disease. An estimated 1,800 persons in New Jersey will be diagnosed with melanoma in 2002. Incidence rates of melanoma are more than ten times higher in whites than in blacks. Other important forms of skin cancer include Kaposi's sarcoma, which commonly occurs among patients with AIDS and cutaneous T-cell lymphoma.

In 1999, more than 300 New Jersey residents died of melanoma. The death rate for New Jersey males was twice that of New Jersey females (5.3 per 100,000 versus 2.3 per 100,000, respectively) (Figure 16). These rates are higher than for the U.S. in 1999; males were 3.8 per 100,000 and females were 1.8 per 100,000.

The incidence and mortality rates of melanoma increase for those over age 50. In 1998 through 1999, the incidence rate was 4.0 per 100,000 for both genders combined for ages 20 through 29. By age 40 to 49 the incidence rate increases to 14.0 per 100,000 and further increases to 49.6 per 100,000 for New Jersey residents over age 60. In 1998 through 1999 death rates likewise increased from 2.0 per 100,000 population (both genders) for those age 40 to 49 up to 16.6 per 100,000 for those over age 60 (Figure 17).

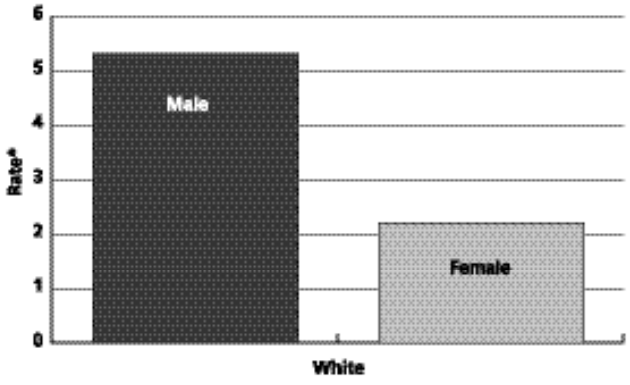
The age-adjusted incidence and mortality rates of melanoma in New Jersey are statistically higher in whites than in the black population (Figure 18). For white males, the incidence rate is 30.6 per 100,000 compared to 1.2 per 100,000 for black males. Female incidence rates for white and black races are 20.1 and 1.3 per 100,000, respectively. By race, white mortality rates are higher in males than females. Males have a mortality rate of 4.6 per 100,000 compared to females who have a rate of 2.2 per 100,000. Case volume for other races is too small to calculate a reliable rate.

Survival and Stage at Diagnosis

Melanoma can spread to other parts of the body quickly. However, when detected in its earliest stages and treated properly, it is highly curable. The five-year relative survival rate for patients with melanoma is 89 percent. For localized melanoma, the five-year relative survival rate is 96 percent; survival rates for regional and distant stage diseases are 61 percent and 12 percent, respectively. About 82 percent of melanomas are diagnosed at a localized stage in the U.S.

In 1999, less than half of all skin cancers in New Jersey were diagnosed in the early stage of the disease. By race,

Figure 16: Skin Cancer Mortality Rates by Gender, New Jersey, 1995-1999



*Rates are per 100,000 gender specific population age-adjusted to the 2000 U.S. standard population. Excludes basal and squamous cell skin cancers.
Source: New Jersey Center for Health Statistics

whites are slightly more likely to be diagnosed at an early stage when compared to blacks, 45 percent versus 39 percent, respectively (Figure 19).

Risk Factors

Factors associated with increased risk include excessive exposure to the sun's ultraviolet radiation, fair complexion, occupational exposure to coal tar, pitch, creosote, arsenic compounds or radium, family history, and multiple or atypical nevi (moles).

Prevention can play a significant role in reducing melanoma risk. As such, the American Cancer Society has developed the following recommendations: 1) limit or avoid exposure to the sun during the midday hours (10 a.m. to 4 p.m.); 2) when outdoors, cover as much skin as possible; 3) wear a hat that shades the face, neck and ears and a long-sleeved shirt and long pants; 4) wear sunglasses to protect the skin around the eyes; and 5) use a sunscreen with a solar protection factor (SPF) of 15 or higher. Because of the possible link between severe sunburns in childhood and greatly increased risk of melanoma in later life, children, in particular, should be protected from the sun.

Screening

Recognition of changes in skin growths or the appearance of new growths is the best way to find early skin cancer. Adults should practice skin self-exam regularly. Suspicious lesions should be evaluated promptly by a physician. A sudden or progressive change in a mole's appearance should be checked by a physician. Melanomas often start as small, mole-like growths that increase in size and change color. A simple ABCD rule outlines the warning signals of melanoma:

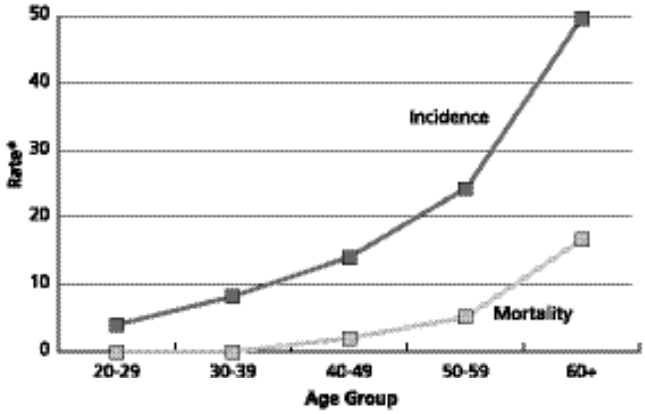
- **A** **Asymmetry** — one half of the mole does not match the other half
- **B** **Border irregularity** — the edges are ragged, notched or blurred
- **C** **Color** — the pigmentation is not uniform, with variable degrees of tan, brown or black
- **D** **Diameter greater than 6 millimeters** — any sudden or progressive increase in size should be of concern

Healthy New Jersey 2010[1]

Objective

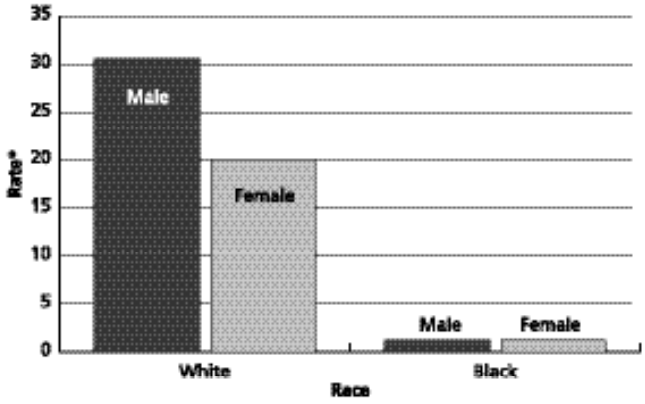
- Reduce the age-adjusted incidence rate of invasive melanoma per 100,000 standard population to:
  - 7.0 for the total population
  - 8.0 for whites
  - 0.3 for blacks

Figure 17: Skin Cancer Incidence and Mortality Rates by Age, New Jersey, 1998-1999



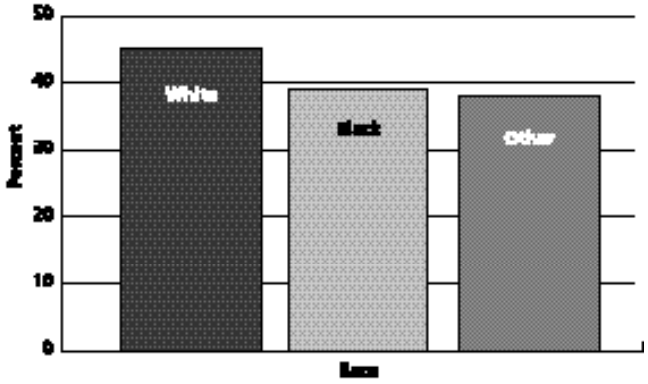
*Rates are per 100,000 persons.
**Excludes basal and squamous cell skin cancers.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Figure 18: Skin Cancer Incidence Rates by Race and Gender, New Jersey, 1999



*Rates are per 100,000 persons age-adjusted to the 2000 U.S. standard population.
**Excludes basal and squamous skin cell cancers.
Source: New Jersey State Cancer Registry

Figure 19: Skin Cancer Cases Diagnosed in Early Stages by Race, New Jersey, 1999



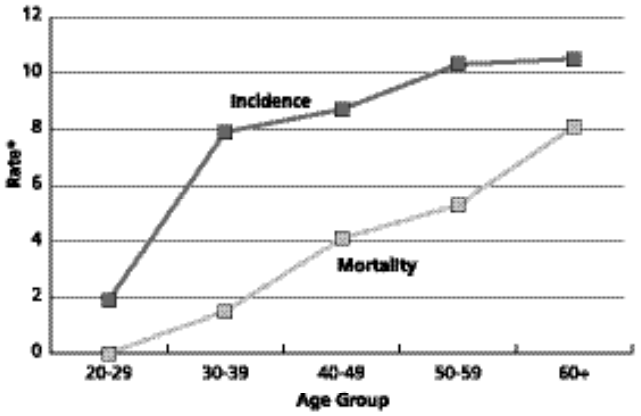
Note: Includes in situ and local. Unstaged cancers were included in the denominator.
Source: New Jersey State Cancer Registry

Table 12: Pap Test, Women 18 and over, New Jersey and U.S., 2000

	Recent Pap Test*		
Age	**18 - 44**	**45+**	**65+**
New Jersey	84.5%	78.8%	62.7%
U.S.	89.0%	83.9%	74.4%

*A Pap test within the preceding three years for women with intact uteri.
Source: American Cancer Society, 2002

Figure 20: Cervical Cancer Incidence and Mortality Rates by Age, New Jersey, 1998-1999



*Rates are per 100,000 females.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Cervical Cancer

Cervical cancer has been identified as an area of emphasis by the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey because it is a preventable and curable disease. Cervical cancer was once one of the most common causes of cancer death for American women. Between 1955 and 1992, the number of cervical cancer deaths in the U.S. declined by 74 percent. The main reason for this change is the increased use of the Pap test, a screening procedure that permits diagnosis of preinvasive and early invasive cancer. The death rate continues to decline by about two percent a year. An estimated 400 cases of invasive cervical cancer are expected to be diagnosed in New Jersey women in 2002 (Table 2).

In 1999, the age-adjusted mortality rate in New Jersey was 2.9 per 100,000 and for the U.S. was 3.2 per 100,000.

Similar to rates observed across the nation, New Jersey cervical cancer incidence rates increase after age 30 but remain level for older New Jersey women. New case rates of 1.9 per 100,000 women ages 20 to 29 in 1995 to 1999 increase to 7.9 per 100,000 for women ages 30 to 39. Incidence rates increase to 10.3 per 100,000 for women ages 50 to 59 and level at 10.5 per 100,000 for those over age 60. From 1995 to 1999, New Jersey mortality rates increased from less than 2.0 per 100,000 for women under age 39 to 8.1 per 100,000 for women over age 60. These trends continued for 1998 to 1999, as shown in Figure 20.

By race, blacks have much higher mortality than whites. In New Jersey, the 1995 to 1999 average mortality rate was 2.7 per 100,000 whites. The black mortality rate was 6.9 per 100,000 for same period.

Survival and Stage at Diagnosis

Survival for patients with preinvasive lesions is nearly 100 percent. Eighty-nine percent of cervical cancer patients with invasive disease survive one year after diagnosis and 70 percent survive five years. When detected at an early stage, invasive cervical cancer is one of the most successfully treatable cancers with a five-year relative survival rate of 92 percent for localized cancers. White women are more likely than black women to have cervical cancers diagnosed at an early stage, 56 percent versus 44 percent, respectively.

Risk Factors

Since the most common form of cervical cancer starts with precancerous changes, there are two ways to stop the disease from developing. The first way is to prevent the precancers, and the second is to detect and treat precancers before they become cancerous. As with other cancers, the risk of cervical cancer increases with age. Cervical cancer risk is linked to sexually transmitted infections from certain types of human papilloma virus. Women who have sex at an early age, many sexual partners or whose partners have had many sexual partners are at higher risk of cervical cancer. Cigarette smoking is also a risk factor for cervical cancer.

Screening

The Pap test is a procedure that can be performed by a health care professional as part of a pelvic exam. This test should be performed annually in women who are, or have been, sexually active or who have reached age 18. After three or more consecutive annual exams with normal findings, the Pap test may be performed less frequently at the discretion of the physician.

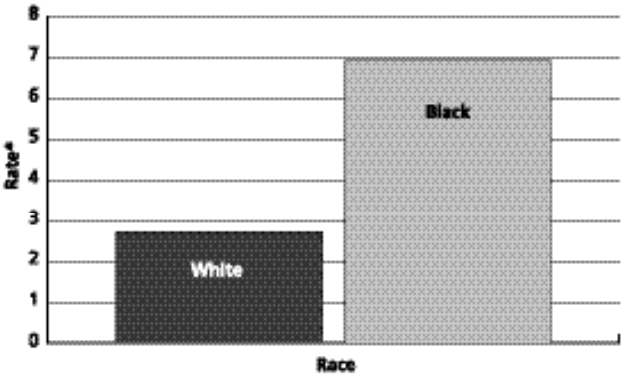
In 2000, 84.5 percent of New Jersey women between the ages of 18 and 44 indicated that they had had a recent Pap test. This was lower than the national median of 89 percent (Table 12).

Healthy New Jersey 2010[1]

Objectives

- Reduce the death rate from cervical cancer per 100,000 population to:
  - 1.0 for all females (age-adjusted)
  - 1.0 for white females (age-adjusted)
  - 2.9 for black females (age-adjusted)
  - 5.0 for females 65+
- Increase the percentage of women aged 18 and over with intact cervix uteri who had a Pap test within the past two years to:
  - 75.0 percent for females 65+
  - 85.0 percent for all other groups
- Reduce the age-adjusted incidence rate of invasive cervical cancer per 100,000 females to 5.4.

Figure 21: Cervical Cancer Mortality Rates by Race, New Jersey, 1995-1999



*Rates are per 100,000 females age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey Center for Health Statistics

Other Major Cancer Sites

Sites	Cancer Risk Factors	Early Detection	Warning Signs
Urinary bladder	Tobacco use; aniline dye used in textile and rubber industries; personal history of bladder cancer	Health related checkups may identify early signs and symptoms	Blood in urine
Corpus uterus	Some forms of infertility; obesity; use of unopposed post-menopausal estrogens; diabetes	Pelvic exam; endometrial tissue sampling at menopause if high risk	Vaginal bleeding after menopause
Non-Hodgkin's lymphoma	AIDS in some cases; transplantation and immunosuppression therapy; viral causes have been suggested in some types; increased risk is associated with certain genetic diseases	Health related checkups may identify early signs and symptoms	Lymph node enlargement,fever
Leukemia	Persons with certain genetic abnormalities; ionizing radiation; exposure to certain chemicals, cytotoxic drugs; certain forms are related to retrovirus, HTLG-1	Health related checkups may identify early signs and symptoms	Fatigue, pallor, repeated infection, easy bruising, nosebleeds
Ovary	Increases with age; possible dietary factors; older women who have never had children are at risk; history of breast, endometrial or colon cancer; family history	A thorough annual pelvic exam is the most important way to detect ovarian cancer	Often "silent;" abdominal symptoms, pain
Pancreas	Increases after age 50 with most cases between ages 65 and 79; more common in smokers; occurs more frequently in blacks; may be associated with pancreatitis, diabetes and diet	Health related checkups may identify early signs and symptoms	Vague abdominal symptoms, pain
Stomach	Occurs in those 50-70 years old; pernicious anemia; certain types of gastritis; possible gastric ulcers; dietary factors	Health related checkups may identify early signs and symptoms	Indigestion

Source: American Cancer Society 2002

The Unequal Burden of Cancer

Despite recent progress in the fight against cancer, many Americans continue to suffer an unequal burden of cancer. Underserved populations, as a result of being uninsured or underinsured, have inadequate access to high quality cancer prevention, screening, treatment and rehabilitation. These Americans include many racial and cultural groups who share characteristics such as low levels of income and education or who live in geographically isolated areas. Other individuals experience barriers because of their age, illiteracy or differing cultural beliefs, practices and languages.

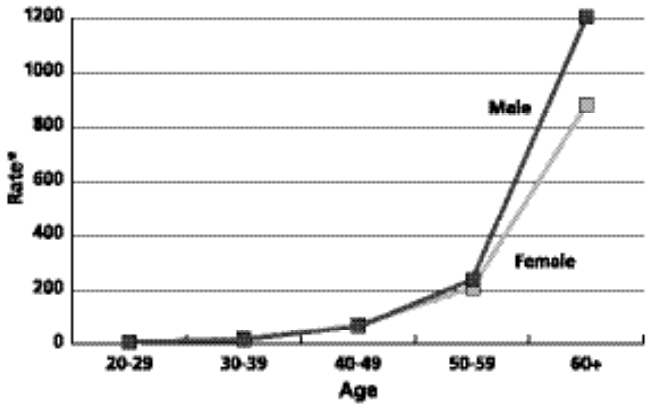
Poverty

Approximately 9.3 percent of New Jersey's population lives in poverty. Poverty is associated with low levels of education, substandard living conditions, unemployment, poor nutrition and diminished access to quality health care.

Age and Gender

As described earlier, the incidence and mortality rates for cancer increase with age. Mortality rates for males age 20 to 29 is 7.7 deaths per 100,000, and increases to 1,203 per 100,000 for men aged 60 and older. Likewise, death rates for females increase from 5.5 per 100,000 for those age 20 to 29 to 882 per 100,000 for women over the age of 60 (Figure 22).

Figure 22: Mortality Rates by Age and Gender, All Cancers, New Jersey, 1998-1999



*Rates are per 100,000 persons.
Source: New Jersey Center for Health Statistics

In the U.S., cancer incidence rates for people aged 60 and older are more than ten times that of the population under age 60. In New Jersey, the incidence rate increases dramatically from 286 per 100,000 for the population under age 45 to over 2,200 per 100,000 for the population age 60 and older.

In New Jersey:

- Over 70 percent of all cancer deaths occur in people over the age of 60.
- Nearly 71 percent of all breast cancer deaths occur in women age 60 and older
- 84 percent of all lung cancer cases and deaths occur in people age 60 and older
- 97 percent of all prostate cancer cases occur in men age 60 and older.

The U.S. Census estimates that by 2025, over 17 percent of the population of New Jersey will be over the age of 65. In 2000, just over 13 percent of the population in New Jersey was older than 65.

Table 13: Cancers in Children

Cancer	Symptoms
Leukemia	Fever, pallor, bone or joint pains, fatigue, anorexia, cutaneous or mucosal bleeding.
Brain & intraspinal	In early stages, may cause headaches, nausea, vomiting; blurred or double vision, dizziness and difficulty in walking or handling objects.
Hodgkin's & Non-Hodgkin's lymphomas	Involves the lymph nodes, but also may invade bone marrow and other organs. May cause swelling of lymph nodes in the neck, armpit or groin. Other symptoms may include general weakness and fever.
Neuroblastoma	A cancer of the sympathetic nervous system which can appear anywhere but usually occurs in the abdomen as a swelling.
Wilms' tumor	A kidney cancer that may be recognized by a swelling or lump in the abdomen.
Osteosarcoma	A bone cancer which may cause no pain at first; swelling in the area of the tumor is often the first sign.
Ewing's sarcoma	Another type of cancer that arises in bone.

Source: American Cancer Society, 2002

Childhood Cancer

Childhood cancer is rare and advances now help most young patients survive. Despite its rarity, cancer is the chief cause of death by disease in children between ages 1 and 14. Nationwide, an estimated 9,100 new cases are expected to occur this year along with 1,400 cancer-related deaths.[3]

The types of cancers that occur in children differ greatly from those seen in adults. Many pediatric cancers occur very early in life; some of these cancers are the result of a familial predisposition. Unlike cancers in adults, childhood cancers are not significantly related to lifestyle-related risk factors.

Overall, New Jersey mirrors the United States regarding the distribution and trends of occurrence and deaths from childhood cancer. Common sites of cancer in children are the blood and bone marrow, bone, lymph nodes, brain, sympathetic nervous system, kidneys, and soft tissues. The most common types of cancer are leukemia, accounting for about 30 percent of cancer cases in children 14 and younger, and brain and intraspinal cancers, accounting for 21 percent of cases.[3]

Early Detection

Cancers in children often are difficult to recognize (Table 13). Parents should see that their children have regular medical checkups and should be alert to any unusual symptoms that persist. These include: an unusual mass or swelling; unexplained paleness and loss of energy; sudden tendency to bruise; a persistent, localized pain or limping; prolonged, unexplained fever or illness; frequent headaches, often with vomiting; sudden eye or vision changes; and excessive, rapid weight loss.

Survival

Great strides have been made in the treatment of childhood cancer, resulting in vastly improved survival and reduced mortality. Nationwide, mortality rates for all childhood cancers combined have decreased steadily from 1975 to 1996. The average number of childhood cancer deaths (all sites combined, through ages 19) over the past five years for New Jersey was 40 for males, and 30 for females.[1]

The overall five-year relative survival for most childhood cancers diagnosed before age 20 has risen to 77 percent and the ten-year survival is approaching 70 percent.[3] In the mid-1970s, about half of all children with cancer survived for five years or more.

Five-year survival rates vary considerably, depending on the site: all sites, 77 percent; bone cancer, 73 percent; neuroblastoma, 71 percent; brain and central nervous system, 69 percent; Wilms' tumor (kidney), 92 percent; Hodgkin's disease, 92 percent; and acute lymphocytic leukemia, 85 percent.[3]

Cancer in Diverse Populations

As noted in Table 14, the risk of developing cancer varies considerably by race in New Jersey. Black males have the highest overall cancer rate, followed by white males. Black men have a higher overall cancer incidence than white men and blacks of both genders have higher death rates than whites (Table 14).

Blacks account for 13.6 percent of the population of New Jersey. Asian-Americans are the fastest growing population in New Jersey, accounting for 5.6 percent. Since the Chinese are the largest ethnic group in this category, the American Cancer Society has expanded its programs in Chinese communities.

Nationally, Hispanics are the fastest growing population group. In New Jersey, Hispanics represent about 13 percent of the total population. Overall, Hispanics experience lower incidence and death rates for all cancers combined. However, Hispanics suffer from higher incidence rates of cancers of the stomach, cervix, liver, gallbladder and multiple myeloma compared to the overall population. Death rates from cancers of the breast, cervix and prostate, all of which can be detected in an early stage by screening, are decreasing more slowly among Hispanics than among non-Hispanics.

The American Cancer Society has recently studied variations in cancer by ethnic groups that highlight the diversity of needs. The reasons for race/ethnic differences in cancer risk are not well understood. It is likely that they result from a complex combination of dietary, lifestyle, environmental, occupational and genetic factors. Higher mortality rates among some populations are due in part to poverty, which may increase the risk of developing certain cancers, and limit access and utilization of preventive measures, screening and treatment options.

Personal and cultural beliefs and practices and societal influences may be barriers to cancer screening. Low cancer screening rates are found among adults who have little or no access to health care, low income and lower educational attainment. Those who live in rural areas,[19] have language barriers, are ethnic minorities[20] or who lack a physician recommendation or referral also have lower rates of screening.[21]

Failure to participate in cancer screening examinations may also be influenced by other lifestyle and cultural practices and willingness to obtain preventive health care. Increasing population knowledge, improving physician recommendations and increasing access to affordable cancer screening tests are important factors to lower the barriers to cancer screening.

Access to care is an extremely complex issue. Improving access generally refers to efforts to increase and sustain individual access to health care. Accessible health services are those that occur in a humane, patient-friendly and culturally appropriate manner. Translation services should be provided when language barriers exist, including sign language for the hearing impaired and Braille for those with impaired vision.

Table 14: Age-Adjusted Incidence and Mortality Rates* and Counts, by Race and Gender, 1995-1999

	Incidence				Mortality			
	White		Black		White		Black	
Male	**Rate**	**Count**	**Rate**	**Count**	**Rate**	**Count**	**Rate**	**Count**
Prostate	180.7	28,533	276.8	4,599	31.8	4,415	67.5	877
Lung & bronchus	92.0	14,372	119.4	2,037	75.1	11,617	100.3	1,661
Colon & rectum	79.7	12,183	76.6	1,288	29.7	4,428	34.3	535
Female	**Rate**	**Count**	**Rate**	**Count**	**Rate**	**Count**	**Rate**	**Count**
Breast	144.7	27,979	116.0	3,007	31.9	6,588	37.8	945
Colon & rectum	55.3	12,064	58.1	1,379	20.3	4,590	26.3	606
Lung & bronchus	56.9	11,834	52.9	1,292	43.0	9,124	43.7	1,060

*Rates are per 100,000 persons age-adjusted to the 2000 U.S. standard population.
Sources: New Jersey State Cancer Registry; New Jersey Center for Health Statistics

Resources
American Cancer Society, Eastern Division

Research in New Jersey

The American Cancer Society's extramural grants program supports the best research at more than 150 of the top U.S. medical schools and universities across a wide range of health care disciplines critically important to the control of cancer. Grant applications solicited through a nationwide competition are subjected to a rigorous external peer review, ensuring that only the best research is funded, wherever it may be. The lion's share of our research budget is dedicated to funding investigators at the beginning of their research careers, a time when they are less likely to receive funding from the federal government. Strong emphasis is placed on research needs that are unmet by other funding organizations, such as our current targeted research area of cancer in the poor and underserved. The success of the Society's research program is exemplified by the fact that 32 Nobel Prize winners received grant support from the Society early in their careers.

Since 1946, the American Cancer Society has invested more than $2.5 billion in research. In 2002, the American Cancer Society awarded $130 million in peer-reviewed research grants across the nation. Nearly $2.5 million is currently invested in grants in medical and research facilities across New Jersey.

Research Grants as of May 2002

New Jersey Total	**$ 4,592,000**
Cooper Cancer Institute	$ 80,000
Princeton University	1,591,000
Rutgers, State University of New Jersey	1,668,000
UMDNJ - New Jersey Medical School	385,000
UMDNJ - Robert Wood Johnson Medical School	868,000

Cancer Control Programs

The following cancer control programs are offered throughout New Jersey.

Prevention and Early Detection

- Cancer Information—1.800.ACS.2345 and www.cancer.org
- Make Yours a Fresh Start Family
- Great American Smokeout
- Communities of Excellence
- Living Well...Tobacco Free
- Meeting Well
- Mi Vida
- Active for Life
- Comprehensive School Health Education
- Generation Fit
- Slip, Slop, Slap, Wrap!
- Tell a Friend/Aconseje A Su Amiga
- Triple Touch
- Colorectal Community Awareness Campaign
- Let's Talk About It
- Man to Man/Brother to Brother
- Working Well…Support for Employee Health

Patient and Family Services

- Cancer Information—1.800.ACS.2345 and www.cancer.org
- Patient Navigation
- I Can Cope
- Look Good...Feel Better
- "tlc"—products for women with cancer
- Reach to Recovery
- Road to Recovery
- Transportation
- Cancer Survivor Network
- Nutrition Programs
- New Jersey Pain Initiative
- Camp Adventure
- Man to Man/Brother to Brother

Cancer Information

1.800.ACS.2345 and www.cancer.org

Assistance is available 24 hours a day, seven days a week at 1.800.ACS.2345, where cancer information specialists provide information in English, Spanish and other languages. The American Cancer Society website, www.cancer.org, is an invaluable information resource at your fingertips.

Publications

The American Cancer Society publishes a large number of patient education brochures, including guidelines for prevention and early detection in six languages. The Society publishes books for patients and families as well as clinical textbooks and professional journals for clinicians. The Society's four clinical journals are: *Cancer,*

Cancer Cytopathology, CA-A Cancer Journal for Clinicians and *Cancer Practice*. For more information, call 1.800.ACS.2345 or visit the Society's online bookstore at www.cancer.org.

Advocacy

The American Cancer Society is an advocate in the fight against cancer, working with elected officials to improve policies and secure funding for cancer research, awareness, prevention, early detection and access to care to save lives.

The American Cancer Society is a voice for the nation's nine million cancer survivors—fighting for laws that improve quality of life for those fighting the disease.

Successes in New Jersey 2001-2002

- Secured passage of legislation requiring insurance companies in New Jersey to pay for colorectal cancer screening tests.
- Worked hard to secure passage of the New Jersey Breast and Cervical Cancer Treatment Act, which will allow low-income and uninsured women access to treatment for breast and cervical cancer.
- Made New Jersey the first state in which clinical trials are covered by insurance.
- Secured passage of four landmark pain-control laws that will improve quality of life for patients in medical facilities throughout the state.
- Worked to ensure that $30 million from the landmark tobacco settlement be invested in tobacco control programs for cessation, combating teen smoking and counter advertising.
- Secured $3 billion for the National Institutes of Health and $500 million for the National Cancer Institute—allowing promising researchers to start work.
- Secured increases in funding for the Centers for Disease Control and Prevention, including a 36 percent increase for the National Colorectal Cancer Awareness Initiative, an 11 percent increase for the National Cancer Registries Program, a 4.2 percent increase for National Breast and Cervical Cancer Early Detection Program and a 27.2 percent increase for the Prostate Cancer Awareness Campaign.
- Secured $85 million for the Department of Defense Prostate Cancer Research Program, and $150 million for the Breast Cancer Research Program.
- Obtained additional funding for New Jersey's state prostate cancer research program.

American Cancer Society, Eastern Division, Inc.

Division Office

2600 Route 1
North Brunswick, New Jersey 08902

New Jersey Regional Offices

626 North Shore Road
Absecon, NJ 08201

1851 Old Cuthbert Rd
Cherry Hill, NJ 08034

507 Westminster Avenue
P.O. Box 815
Elizabeth, NJ 07207

84 Park Avenue
Flemington, NJ 08822

846 Main Street
Fords, NJ 08863

20 Mercer Street
Hackensack, NJ 07601

3076 Princeton Pike
Lawrenceville, NJ 08648

669 Littleton Road
Parsippany, NJ 07054

600 First Avenue
Raritan, NJ 08869

150 Meadowlands Parkway
P.O. Box 2486
Secaucus, NJ 07096-2486

801 Broad Street
Shrewsbury, NJ 07702

1035 Hooper Avenue
Toms River, NJ 08753

1400 West Landis Avenue
P.O. Box 239
Vineland, NJ 08360

468 Parish Drive, Suite 6
Wayne, NJ 07470

767 Northfield Avenue
West Orange, NJ 07052

Resources
New Jersey Department of Health and Senior Services

New Jersey Commission on Cancer Research (NJCCR)

New Jersey has been a pioneer in the use of state funding for cancer research. The mission of the New Jersey Commission on Cancer Research is to ensure that citizens receive the fullest benefit of our nation's fight against cancer through the promotion and funding of research into the causes, prevention and treatment of cancer.

The NJCCR was established in 1983 (Cancer Research Act of 1983, P.L. 83, Ch.6) to promote and fund significant cancer research projects proposed and carried out by New Jersey scientists. The Cancer Research Act dedicates annually a sum of no less than $1 million to the NJCCR. The Commission's eleven members, who are appointed by the Governor with the consent of the Senate, are distinguished leaders from the scientific, medical and business communities. The primary activity of the Commission is the funding of scientifically peer reviewed cancer research grants and training fellowships at eligible nonprofit institutions throughout the state.

Since 1983, the Commission has been making a difference in the lives of New Jersey residents by helping to educate them about the early signs of cancer, offering programs and services to those experiencing cancer, advocating for healthy public policy and of course, funding innovative cancer research leading to better treatment and prevention strategies.

Early on in its development, the Commission recognized that the only sure strategy for success was to invest in the most talented people. With this in mind, the Commission has consistently supported emerging research talent seeking to break into the competitive world of cancer research and senior investigators embarking on new research directions. The Commission uses an NIH system of scientific peer review in making its awards and this assures a rigorous and fair approach to all of its endeavors.

New Jersey State Cancer Registry

Surveillance, or the tracking of cases of cancer, is absolutely fundamental to epidemiological research that attempts to link apparent trends in cancer to possible risk factors or causes. The New Jersey State Cancer Registry, located in the New Jersey Department of Health and Senior Services, is considered one of the most complete and up-to-date registries in the nation. The information in the Registry is used by cancer researchers inside and outside State government, and is also released to the public in periodic reports of topical interest. Education of the public on ways to prevent cancer and/or detect certain types of cancer at early, treatable stages is fundamental to successful control of these diseases. There are many private organizations engaged in such education, ranging from the broadly-based American Cancer Society to groups organized around specific types of cancer. The State has targeted its education and outreach efforts to high-risk and/or underserved groups. The educational messages and strategies differ by type of cancer.

New Jersey Cancer Education and Early Detection

New Jersey Cancer Education and Early Detection (NJCEED) provides comprehensive screening services for breast, cervical, prostate and colorectal cancer. Services include: education, outreach and early detection, case management, screening, tracking and follow-up. NJCEED services are available in all 21 counties through 25 lead partner agencies. The program seeks to increase the awareness of each person's risk for breast, cervical, prostate and/or colorectal cancer and to encourage them to use screening services for early detection and more effective treatment to decrease morbidity and mortality.

New Jersey Office of Cancer Control and Prevention

New Jersey began its formal process of developing a Comprehensive Cancer Control Plan (CCCP) with the appointment of the Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey, and the establishment of planning support from the New Jersey Department of Health and Senior Services' Office of Cancer Control and Prevention. Findings and recommendations for the Comprehensive Cancer Control Plan follow the Centers for Disease Control and Prevention guidelines, and have been presented to the Governor as mandated by Executive Order 114. The Office of Cancer Control and Prevention is dedicated to developing and maintaining the infrastructure necessary to ensure coordinated cancer control efforts in New Jersey, and has

supported the Task Force in creating New Jersey's Comprehensive Cancer Control Plan. The office has begun coordinating and evaluating the implementation of the plan in order to continually improve comprehensive cancer control in New Jersey.

Comprehensive Tobacco Control Program (CTCP)

The mission of the Comprehensive Tobacco Control Program is to decrease deaths, sickness and disability among New Jersey residents who use tobacco or are exposed to environmental tobacco smoke.

To achieve success, the Department of Health and Senior Services has outlined five clear goals:

- Decrease the acceptability of tobacco use among all populations
- Decrease the initiation of tobacco use by youth under 18 years of age and youth 18 to 24 years of age
- Increase the number of youth and adult tobacco users who initiate treatment
- Decrease exposure to environmental tobacco smoke
- Reduce disparities related to tobacco use and its effects among different population groups

To meet the goals of the Comprehensive Tobacco Control Program, DHSS has developed six program areas:

Community Partnerships—Develops programs at the grassroots level that decrease the acceptability and initiation of tobacco use by youth and young adults, and increase the number of tobacco users who initiate treatment.

The Youth Program—Coordinates the efforts of anti-tobacco youth groups throughout New Jersey to prevent tobacco use by youth and young adults.

Treatment—Funds three different ways to help smokers quit smoking and end their nicotine addiction.

Enforcement—Promotes New Jersey's Tobacco Age of Sale laws to reduce exposure to environmental tobacco smoke (ETS) and stop the sale of tobacco products to minors.

Measurement and Evaluation—Oversees development of baseline data and research to measure the effectiveness of New Jersey's CTCP.

Marketing and Communication—Oversees creative development and execution of advertising and public awareness campaigns promoting DHSS's tobacco control programs.

The following resources are available to New Jersey residents. Additional detail and resources can be found at http://www.state.nj.us/health.

Cancer Epidemiology Services	609.588.3500
SENIOR Hot Line	800.792.8820
Pharmaceutical Assistance to the Aged and Disabled (PAAD)	800.792.9745
New Jersey Cancer Education and Early Detection (CEED) (Screening Services)	609.292.8540
New Jersey State Cancer Registry	609.588.3500
New Jersey Care and New Jersey Family Care	800.701.0710
Children's Catastrophic Illness Relief Fund Commission	609.292.0600
New Jersey Department of Military and Veterans Affairs	973.395.1000
New Jersey Office of Cancer Control and Prevention	609.588.7681
Comprehensive Tobacco Control Program (CTCP)	609.984.3315

Resources

National Cancer Institute Cancer Centers

The National Cancer Institute (NCI) Cancer Centers Program comprises more than 50 NCI-designated cancer centers engaged in multidisciplinary research to reduce cancer incidence, morbidity and mortality. To attain recognition from NCI as a Comprehensive Cancer Center, an institution must pass rigorous peer review, and must perform research in three major areas: basic research, clinical research and cancer prevention, control and population-based research. It must also have a strong body of interactive research that bridges these research areas. In addition, a Comprehensive Cancer Center must conduct activities in outreach, education and information provision, which are directed toward and accessible to both health care professionals and the lay community.

Patients seeking clinical oncology services (screening, diagnosis or treatment) can obtain those services at Clinical Cancer Centers or Comprehensive Cancer Centers. They can also participate in clinical trials (research studies involving people) at these types of cancer centers. The Cancer Institute of New Jersey is the state's first NCI-designated cancer center.

The Cancer Institute of New Jersey
(Comprehensive Cancer Center)

195 Little Albany Street
New Brunswick, NJ 08901
732.235.2465

Websites

American Cancer Society

http://www.cancer.org/

Behavioral Risk Factor Surveillance System (BRFSS)

http://www.cdc.gov/brfss/stateinfo.htm

Environment Factors Associated with Cancer

http://www.atsdr.cdc.gov
http://www.epa.gov
http://www.niehs.nih.gov
http://www.osha.gov
http://www.who.int

National Cancer Institute

http://www.cancer.gov

National Health and Nutrition Examination Survey (NHANES)

http://www.cdc.gov/nchs/nhanes.htm

New Jersey Department of Health and Senior Services

http://www.state.nj.us/health/

New Jersey Department of Health and Senior Services—Cancer page

http://www.state.nj.us/health/cancer.htm

New Jersey State Cancer Registry

http://www.state.nj.us/health/cancer/njscr.htm

New Jersey Department of Health and Senior Services Office of Minority and Multicultural Health

http://www.state.nj.us/health/commiss/omh/

Surveillance, Epidemiology and End Results (SEER) Program

http://seer.cancer.gov/

Youth Risk Behavioral Surveillance System (YRBSS)

http://www.cdc.gov/nccdphp/dash/yrbs/

Data Sources

American Cancer Society. The American Cancer Society conducts epidemiology and surveillance research to evaluate trends in cancer incidence and mortality, cancer risk factors, and cancer patient care, and studies the causes and prevention of cancer in large prospective studies. In addition to *Cancer Facts & Figures,* the American Cancer Society provides descriptive cancer statistics in several other publications including *Cancer Statistics, Breast Cancer Facts & Figures,* and *Cancer Facts & Figures for African Americans.* Trends and patterns in cancer risk factors such as tobacco use, nutrition, and physical activity are presented in *Cancer Prevention & Early Detection Facts & Figures. Cancer Facts & Figures* serves as a resource for American Cancer Society Divisions to assess progress toward the Society's goals. This segment of the American Cancer Society collaborates with the National Cancer Institute, the Centers for Disease Control and Prevention, including the National Center for Health Statistics, and the North American Association of Central Cancer Registries to produce the annual Report to the Nation on progress related to cancer prevention and control in the United States.

Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a survey developed and managed by the Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) and the U.S. states and territories. The survey is designed to provide state prevalence estimates on behavioral risk factors such as cigarette smoking, physical activity and cancer screening. Data are gathered through monthly, computer-assisted telephone interviews of adults aged 18 years or older living in households in a state or U.S. territory. The BRFSS is an annual survey, and of all 50 states, the District of Columbia and Puerto Rico have participated since 1996. The methods are generally comparable from state to state and from year to year, which allows states to monitor the effects of interventions over time. Prevalence estimates from BRFSS are subject to several limitations. The prevalence estimates are only applicable to adults living in households with a residential telephone line. Although 95 percent of U.S. households have telephones, the coverage ranges from 87 to 98 percent in the states and varies by state.

Census 2000. The Census Bureau collects information on population and housing characteristics at the state level, as well as population and housing unit counts for cities, counties, and American Indian and Alaska Native areas. Community leaders use the census for everything from planning schools and building roads to providing recreational opportunities and managing health care services. The U.S. Constitution mandates conducting a census every 10 years. Detailed information is available that summarizes characteristics from every person and household in the United States by age, race, and family composition. Samples from households also provide useful information such as income, education and occupation, as well as broader issues such as demographic trends and economic opportunities.

Centers for Disease Control And Prevention (CDC). The CDC is recognized as the lead federal agency for protecting the health and safety of people—at home and abroad, providing credible information to enhance health decisions, and promoting health through strong partnerships. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States. By working with public health and grassroots partners, and by leveraging the voices of the internet, and communication media, the CDC ensures the best health and safety information is accessible to the communities and people who need it every day. CDC, located in Atlanta, Georgia, U.S., is an agency of the Department of Health and Human Services. Data sources used for this report include CDC Chronic Disease Notes and Reports.

National Health Interview Survey (NHIS). The NHIS is a survey developed and managed by the Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). The survey is designed to provide national prevalence estimates on personal, socioeconomic, demographic and health characteristics, such as cigarette smoking and physical activity of U.S. adults. Data are gathered through a computer-assisted personal interview of adults aged 18 years or older living in households in the United States. The NHIS is an annual survey and has been conducted by NCHS since 1957.

National Health and Nutrition Examination Survey (NHANES). The NHANES is a survey developed and managed by the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). The survey is designed to provide national prevalence estimates on the health and nutritional status of U.S. adults and children, such as prevalence on major disease, nutritional disorders, and potential risk factors. Data are gathered through in-person interviews and direct physical exams in mobile examination centers. Questions regarding diet and health are asked in the interview; the physical exam consists of medical and dental exams, physiological measurements and laboratory tests. Three cycles of NHANES were conducted between 1971 to 1994; the most recent and third cycle (NHANES III) was conducted from 1988 to 1994. Beginning in 1999, NHANES was implemented as a continuous, annual survey. For more information, visit the NHANES website at http://www.cdc.gov/nchs/nhanes.htm.

New Jersey Center for Health Statistics (NJCHS). The NJCHS collects, researches, analyzes and disseminates New Jersey health data and information and serves as a resource to the Department in development of health data policy. Because of the time required to collect, process, and perform quality control on birth and death certificate data, some of which come to us from other states, the data presented as "final" are often delayed by two or three years.

The New Jersey State Cancer Registry (NJSCR) is part of the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program—the nation's most authoritative source of cancer data. New Jersey is one of only 11 states and metropolitan areas that participate in SEER. It participates as one of SEER's new expansion registries, and participates in the CDC's National Program of Cancer Registries. As a SEER participant, NJSCR is able to participate in special studies about the care the state's cancer patients receive, in hopes of further improving survival rates. The NJSCR has also been awarded the North American Association of Central Cancer Registries' "Gold Standard for Quality, Completeness and Timeliness" for five consecutive years.

Since 1979, the NJSCR has collected complete data on every case of cancer diagnosed in a New Jersey resident. This includes basic patient demographic data, specific type of cancer, stage of disease at diagnosis and survival information. Registry data form the basis of an ongoing series of reports on cancer in New Jersey. In recent years, the department has published reports on breast cancer in New Jersey, prostate cancer, cancer among Hispanics and childhood cancer, colorectal cancer and cancer in older adults as well as regular updates on statewide cancer incidence. State Cancer Epidemiology Program staff and other researchers have also used NJSCR data in conducting studies, over 100 of which have been published in scientific journals.

Surveillance, Epidemiology, and End Results. The Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute is the most authoritative source of information on cancer incidence and survival in the United States. Case ascertainment for SEER began on January 1, 1973. The SEER Program currently collects and publishes cancer incidence and survival data from 11 population-based cancer registries and three supplemental registries covering approximately 14 percent of the U.S. population. Expansion registries increase the coverage to approximately 26 percent. Information on more than 3 million in situ and invasive cancer cases is included in the SEER database, and approximately 170,000 new cases are accessioned each year within the SEER catchment areas. The SEER Registries routinely collect data on patient demographics, primary tumor site, morphology, stage at diagnosis, first course of treatment, and follow-up for vital status. The SEER Program is the only comprehensive source of population-based information in the United States that includes stage of cancer at the time of diagnosis and survival rates within each stage. The mortality data reported by SEER are provided by the National Center for Health Statistics.

Youth Risk Behavior Surveillance System (YRBSS). The YRBSS is a survey developed and managed by the Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). The survey is designed to provide national, state and local prevalence estimates on health risk behaviors, such as tobacco use, unhealthy dietary behaviors, physical inactivity and others, among youth and young adults who attend public and private high schools. Different statistical methods are used to

choose the representative sample for the national, state and local prevalence estimates. Data are gathered through a self-administered questionnaire, which is completed during a required subject or class period. The YRBSS is a biennial survey, which began in 1991. The state and local surveys are of variable data quality and caution should be used in comparing data between them.

Notes

[1] New Jersey Department of Health and Human Services, *New Jersey Center for Health Statistics* 2002.

[2] *Surveillance, Epidemiology and End Results Database.* www.seer.cancer.gov, National Cancer Institute, 2002.

[3] American Cancer Society. *Cancer Facts & Figures.* Atlanta (GA), 2000, 2001, 2002.

[4] Warner KE, Hodgson TA, Carroll CE. Medical Costs of Smoking in the United States; Estimates, Their Validity and Their Implications. *Tobacco Control.* 1999; 8:290-300.

[5] McGinnis JM, Foege WH. Actual Causes of Death in the United States. *Journal of the American Medical Association.* 1993; 270:2207-2212.

[6] Doll R, Peto R. *The Causes of Cancer.* New York: Oxford Press; 1981.

[7] Harvard Center for Cancer Prevention. Harvard Report on Cancer Prevention, Volume 1: Causes of Human Cancer. *Cancer Causes Control.* 1996; 7:S55.

[8] American Cancer Society, Advisory Committee on Diet, Nutrition and Cancer Prevention. Guidelines on Diet, Nutrition and Cancer Prevention: Reducing the Risk of Cancer With Healthy Food Choices and Physical Activity. *CA Cancer J Clin.* 2001; 52:92-119.

[9] Kennedy E, Blaylock J, Kuhn B. On the Road to Better Nutrition. In: Frazao E, ed. *America's Eating Habits: Changes and Consequences.* Washington (DC); U.S. Department of Agriculture, Economic Research Service, Food and Rural Economic Division; 1999.

[10] Kurtzweil P. *Fruits and Vegetables: Eating Your Way to 5 A Day*. http://www.cfsan.fda.gov/~dms/fda5aday.html. U.S. Food and Drug Administration: 1998.

[11] Friedenreich CM. Physical Activity and Cancer Prevention: From Observational to Intervention Research. *Cancer Epidemiology Biomarkers Prev.* 2001; 10:287-301.

[12] National Institutes of Health. *Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults.* Bethesda, Maryland: National Institutes of Health, National Heart, Lung and Blood Institute; 1998: vii.

[13] Michaud DS, Giovannucci E, Willet WC, Colditz GA, Stampfer MJ, Fuchs CS. Physical Activity, Obesity, Height and the Risk of Pancreatic Cancer. *Journal of the American Medical Association.* 2001; 286:921-929.

[14] Flegel KM, Carroll MD, Kuczmarski RJ, Johnson CL. Overweight and Obesity in the United States: Prevalence and Trends, 1960-1994. *Int J Obes Metab Disord.* 1998; 22:39-47.

[15] Lino M, Gerrior SA, Basiotis PP, Anand RS. *Nutrition Insights: Report Card on the Diet Quality of Children.* Washington, D.C.: United States Department of Agriculture, Center for Nutrition Policy and Promotion; 1998.

[16] U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General.* Atlanta (GA): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; 1996.

[17] Guo SS, Roche AF, Chumlea WC, Gardner JD, Siervogel RM, Johnson CL. The Predictive Value of Childhood Body Mass Index Values for Overweight at Age 35 Years. *Am J Clin Nutr.* 1994; 59:810-819.

[18] Troiano RP, Flegal KM. Overweight Children and Adolescents: Description, Epidemiology and Demographics. *Pediatrics.* 1998; 101:497-504.

[19] Pearlman DN, Clark MA, Rakowski W, Ehrich B. Screening for Breast and Cervical Cancers: The Importance of Knowledge and Perceived Cancer Survivability. *Women Health.* 1999; 28:93-112.

[20] George SA. Barriers to Breast Cancer Screening: An Integrative Review. *Health Care Women Int.* 2000; 21:53-65.

[21] Brown CL. Screening Patterns for Cervical Cancer: How Best to Reach the Unscreened Population. *J Natl Cancer Inst Monogr.* 1996; 21:7-11.

Acknowledgements

American Cancer Society, Eastern Division, Inc.
Cancer Control Planning and Evaluation Team
New Jersey Department of Health and Senior Services
New Jersey State Cancer Registry
New Jersey Center For Health Statistics
New Jersey Cancer Education and Early Detection (NJCEED)
Office of Cancer Prevention and Contol
Office of the State Epidemiologist
Regional Planners, American Cancer Society
Cheryll Cardinez, MSPH, American Cancer Society
Sarah Landis, MPH

Editors

Melissa Gallison, PhD, RN, MPH
Cancer Control Planning Director
American Cancer Society, Eastern Division, Inc.

Betsy Kohler, MPH, CTR
Director of Cancer Epidemiology Services
New Jersey Department of Health and Senior Services

Production

Donna Gulotta
Creative Services Specialist
American Cancer Society, Eastern Division, Inc.